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Motivation to Run: Using Fishbein & Ajzen'sTheory of Reasoned Action to Predict Participation in 5K Races

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MOTIVATION TO RUN: USING FISHBEIN & AJZEN'S THEORY OF REASONED ACTION TO PREDICT PARTICIPATION IN 5K RACES

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Title: Motivation to Run: Using Fishbein & Ajzen's Theory of Reasoned Action to Predict Participation in 5K Races

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The purpose of this study was to gain an understanding of the motivations of 5K race participants. The Theory of Reasoned Action (TRA; Fishbein & Ajzen, 2010) was used as the theoretical framework of this study. TRA held that "human social behavior follows reasonably and often spontaneously from the information or beliefs people possess about the behavior under consideration" (Fishbein & Ajzen, 2010, p. 20). TRA was tested using a mixed methods research design beginning with collecting data through a survey and secondary data and then conducting qualitative interviews to triangulate and expand upon the quantitative assertions. The research examined the attitudes, subjective norms, perceived behavioral controls, past participation, and intentions to participate in a 5K race of known and potential 5K race participants through a questionnaire. After these data were collected, I acquired the 5K race results after they took place to determine whether the person actually participated in their intended 5K race. The sample was comprised of 2011 5K race finishers in the Harrisburg and York area (known runners), members of Harrisburg and York area running clubs (known runners), and Harrisburg and York area general population (unknown runners). The research also included qualitative semi-structured interviews with willing survey participants. The qualitative interviews supplemented the quantitative component by providing detailed information on the runners and their identities. The findings from this study will be provided to Central Pennsylvania nonprofit organizations as a guide to plan a successful 5K race fundraiser or to increase the participation in their current 5K race.

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CHAPTER 1

INTRODUCTION

Nearly 5.3 million people finished a road race measuring 5,000 meters (5K) in the United States in 2011 according to Running USA's National Runner Survey (2012). Approximately 12,500 5K races were held, accounting for more than half of the total road races in 2011. The 5K race has been the most participated-in distance run in the United States since 1994. Running USA, a nonprofit organization created to improve the status of road racing, advocated that the past eight years as the Second Running Boom[1] because each year resulted in a new record high of road race finishers. In 2011, there were 13.9 million road race finishers, a 170 percent increase from the 5.2 million finishers in 1991, the year that Running USA began collecting data (*Running USA's State of Sport 2012*, 2012). Another notable finding by Running USA (2012) was that the road race finishers were predominantly men in 1990 (75%) and now women represent more than half of the race finishers in 2011 (55%; 57% of all 5K race finishers were female). Most of these races in general were held in the name of a charitable cause, attracting more than just dedicated runners to the starting line.

Charity-affiliated Sporting Events (CSEs) are charity events held by nonprofit organizations that utilized sports activities to raise funds. CSEs are valuable fundraising tools because they are universally popular, spectator-friendly, and they represent health or a healthier lifestyle (Won, Park, & Turner, 2010). 5K races serve as beneficial CSEs because they have substantial fundraising potential due to the frequent occurrences and growing number of participants (*Running USA's State of Sport 2012*, 2012; Bennett, Mousley, Kitchin, & Ali-Choudhury, 2007).

[1] The First Running Boom took place in the 1970's when recreational runners and joggers started participating in road races, as opposed to just elite-level runners.

Statement of the Problem

As of 2011, 1.57 million nonprofit organizations existed in the United States, with 38,190 registered nonprofits in Pennsylvania (National Center for Charitable Statistics, 2011). Individuals were responsible for 73 percent ($217.79 billion) of the $298.42 billion non-profit contributions in 2011. Individuals typically contributed to nonprofits through responding to solicitations by, for example, writing a check to St. Jude's Children's Hospital or submitting a credit card donation online to the American Cancer Society. The number of nonprofit organizations in need of charitable contributions has increased by 19 percent since 2002(Giving USA, 2012). During the Great Recession in 2008 and 2009, charitable giving dropped a combined 13 percent after adjusting for inflation. In 2011, charitable contributions remained flat from 2010, but were still down nine percent from the all-time high achieved four years prior (Giving USA, 2012). The troubled economy had also limited the governmental support that local nonprofits depended upon to exist. More charities competing for a smaller amount of charitable donations and declining government funding had exacerbated the situation, sharpening the nonprofits' need to promote awareness of their cause. Planning a 5K race is a relatively cheap and easy way for nonprofits to use CSEs to raise funds, spread awareness, and provide a racing forum for participants to develop or improve their running skills. In order to create a successful 5K race design or improve the strategy of their current CSE, nonprofit race directors must know what is motivating individuals to participate in 5K races.

Current Studies on Race Running and Motivation

Studies of the motivations of individuals to participate in races, games, or other physical activity have been conducted through a multitude of different academic disciplines and, as a result, a multitude of different conceptual frameworks. A substantial amount of studies examined the exercise motivations of individuals in the context of the self-determination theory

(SDT), the theory of planned behavior (TPB), and goal-oriented theories (e.g. Lewis & Sutton, 2011; Rhodes, de Bruijn, & Matheson, 2010; Stevenson & Lochbaum, 2008). Other studies have focused on the characteristics, motivations and identities specific to the running community (e.g. Hanold, 2010; Sailors, 2009; Shipway & Jones, 2008; Nettleton & Hardey, 2006; Abbas, 2004). Masters, Ogles, and Jolton (1993) developed a quantitative scale that measured the motivations of marathoners (MOMS) and used it to compare differently motivated runners and assign typologies to them (Havenar & Lochbaum, 2007, Ogles & Masters, 2003, 2000). Another set of studies evaluated the motivations of participants in CSEs in relation to their attachment to the charity the CSE supported (e.g. Filo, Funk, & O'Brien, 2011, 2010, 2009; Wood, Snelgrove, & Danylchuk, 2010). Very few studies focused on the motivations of individuals' participation exclusively in 5K CSEs (e.g. Scott & Solomon, 2003).

Charity-Affiliated Sporting Events

Webber (2003) stated that fundraising events were held to raise money for a charity by convincing a person to spend more money to participate in the event than it actually cost the charity to provide them with a participation venue. Fundraising techniques based on the motivations of participants were used to raise income and awareness at an event. Participants at fundraising events were given a private benefit, such as a race venue, making it different from pure philanthropic giving (Webber, 2003). Webber (2003) concluded that fundraising events were one of the least productive methods for raising money, but were beneficial for attracting support from those who were little concerned with the specific charity. Alternatively, Bennett and colleagues (2007) argued that the fundraising potential of CSEs was substantial due to their frequent occurrence and large number of participants. CSEs allowed participants to engage in two meaningful activities at the same time (Wood et al., 2010). These meaningful activities were the philanthropic act of donating to a charity and the fulfillment of participating in a

sporting activity. This sentiment was expected to be found at 5K races because they are relatively inexpensive and easy ways for runners to fulfill their need to race. Therefore, a comprehensive knowledge of the participants' motivations was crucial because participation in a CSE was voluntary, chosen from a varied list of alternatives (Bennett et al., 2007).

5K Races as CSEs

As previously stated, the 5K race has been the most well-attended race distance each year since 1994. Despite the prevalence, popularity, and ease of operation, 5K race studies remained elusive in the sports motivation literature. The few studies found that investigated 5K race populations were concerning nonprofit or cause-related marketing.

Higgins & Lauzon (2002) used Rogers' diffusion of innovations theory to provide a way of understanding how new ideas and practices reached a population of potential event participants of 50 CSEs, including some 5K races. The mixed methods study revealed that participants wanted to be part of a community experience based on local social activism and altruism while donating to a worthy cause. Involved participants were found to be ten times more generous with their time and money than unconcerned citizens, so nonprofit organizations would benefit from inviting citizens to participate in events tailored to their tastes and motivations (Higgins & Lauzon, 2002). Although this study was not exclusively done on 5K races, it provided an enlightening framework of what a CSE participant wanted out of their event. The design of the current study used a multiple-event focus as well, to achieve broader findings while mitigating the motivational effects highly loyal or totally unconcerned participants might have at one 5K event.

Scott and Solomon (2003) applied a cause-related marketing construct to understand the motivations of CSE participants at a Susan G. Komen Race for the Cure 5K event. Using qualitative participant observations and interviews, the following motivational themes were

discovered: (1) personal connection to the illness, (2) racing with and for others, (3) supporting the charity, (4) racing for fitness, and (5) fundraising (Scott & Solomon, 2003). Runners spoke about their internal dialogue while running the race, such as creating fundraising strategies or pondering their personal losses of friends or family to breast cancer (Scott & Solomon, 2003). With the benefit of compounding CSE motivation research in the past ten years, the current study used a mixed methods design to triangulate the motivational findings.

Gaps in the Literature of Race Running and Motivation

Despite the popularity of 5K races, the motivation to participate in them has rarely been researched (e.g. Higgins & Lauzon, 2002; Scott & Solomon, 2003). Further, quantitatively studying the motivations of participants exclusively in the 5K race setting remains to be explored. The motivations of marathon runners were ubiquitous in the literature (see Ogles & Masters, 2003; Havenar & Lochbaum, 2007), but the stimulating factors of marathon runners could be quite different than the motivations of 5K race participants. The level of time and money committed to training for and entering a marathon is much higher and more disciplined than the commitment required for a 5K race. For example, training to run a marathon (26.2 miles) can take four months or longer, while training to run a 5K race (3.1 miles) can take as little as two weeks for a physically active individual.

Only a few studies examined past behavior in connection with current physical activity using TPB (e.g. Hagger & Chatzisarantis, 2009; Kwan, Bray, & Ginis, 2009; Rhodes et al., 2010; Gerber, Mallett, & Puhse, 2011). The TPB was an earlier version of the motivation theory used in the current study. Hagger and Chatzisarantis (2009) found in a meta-analysis combining 36 physical activity studies of TPB with SDT (a theory that identified individuals' intrinsic and extrinsic motivations) that past behavior was the strongest predictor of behavior. In the running community literature, the past behavior of runners was rarely examined (e.g. Ogles & Masters,

2000; Hanold, 2010). Therefore, the past behavior of a 5K race participant warranted a close examination to determine the impact on the intention to run and the actual participation in a 5K race.

Flaws existed in the designs of the growing body of work that studied the motivations and attachment of CSE participants (e.g. Beaton, Funk, & Alexandris, 2009; Filo, et al., 2011, 2010, 2009). Most of the studies used convenience samples of the participants at one or two particular events. Further, the majority of the studies found lacked a comparison or control group of people who did not participate in the events in question. In this study, a better sampling strategy was attempted. The group already affiliated with running and 5K races were surveyed as a census of lists from local 5K race directors, local running clubs, and local running websites. The comparison group was a stratified random sample, proportional to population size and gender in the Harrisburg and York areas of Pennsylvania. This sampling design provided richer information for the 5K race directors in developing race marketing plans and race designs.

Finally, the paucity of research on the 5K race through the lens of the running community and motivation theory was starkly evident. Very few individuals who identified themselves as runners began their racing career with a half- or full-marathon. Participation in a 5K race was a vital step in building a runner's identity (e.g. Shipway & Jones, 2008), coming back from an injury (e.g. Collinson, 2003), and reaping the benefits of a runner's vigorous training during the week (e.g. Nettleson & Hardey, 2006). As CSEs, 5K races provided a valuable forum for people who supported or identified with the charity to physically demonstrate their support (e.g. Won et al., 2010).

Positionality Statement

I am the Secretary of the Harrisburg Area Road Runners Club (HARRC) and I work with the US Road Running website. The mission of HARRC is to promote running in general and to

serve the running community when they need help with race design, advertising, and general running advice. US Road Running is a for-profit company that provides free website services for non-profit running organizations and races of all distances, among other support services for the running community. I am a visible and active member of the running community in the Harrisburg and York areas of Pennsylvania, and as such, I strive to elicit a trusting relationship with the local runners. I identify strongly with the running community at a non-elite level. I have regularly competed in over 20 races per race season, from 5K to marathon distances. I run nearly every day and will always encourage others to run, even if it is just a walk/run for a short time. My bias for running is that I associate running with all things healthy. I will use expert and peer reviews and triangulation of the quantitative and qualitative data I collect to remain mindful of my positive predisposition.

Purpose & Objective of the Study

The purpose of this study was to gain an understanding of the motivations of 5K race participants in the Harrisburg and York areas of Pennsylvania. After the data collection and analysis were completed, the findings from this study were made available to race directors at Central Pennsylvania nonprofit organizations as a guide to plan a successful 5K race fundraiser or to increase participation in their current 5K race. Using a modified version of Fishbein and Ajzen's Theory of Reasoned Action(TRA; 2010) as a theoretical framework, I surveyed the local 5K race participants and the general population to discover their attitudes, norms, perceived control, past participation, identity, and intention towards participating in at least one late Summer/Fall 2012 5K race. I then conducted semi-structured interviews with willing survey participants to develop their 5K race motivation components, identity, and actual control over their ability to participate in a 5K race.

Significance of the Study

The findings of this study of the motivations of 5K race participants in the Harrisburg and York areas provided useful information for two specific groups. First, as previously mentioned, the results of this study were valuable to the nonprofit organizations that use 5K races as fundraisers. They can use these findings to create a successful 5K race or increase participation in their current 5K event. Typically, the better experience a person had at a 5K race event, the more likely they will be to return next year. The second group that could benefit was the local running community. The leaders in the running community could use these findings to develop ways to encourage runners to continue running, join the running community groups, and to develop or strengthen their identity as a runner.

CHAPTER 2

REVIEW OF THE LITERATURE

The purpose of this chapter was to use Fishbein and Ajzen's (2010) theory of reasoned action (TRA), informed by extensive reviews of related exercise motivation theories, running, and charitable sporting event (CSE) literature, to build a theoretical model. This conceptual model was subsequently used to discover what motivated individuals to participate in 5K races in the York and Harrisburg areas of Pennsylvania. The argument began with a history and applications of traditional TRA. Then in 1985, Ajzen (2010) expanded TRA to develop the theory of planned behavior (TPB). Following the evolution of TPB, literature was reviewed that compared TRA and TPB and their respective ability to predict behaviors. Further, an extensive review of the literature applying TPB to physical activity was conducted to ensure enhanced TRA would sufficiently predict 5K race running behaviors. Then related exercise motivation literature was reviewed to tease out background factors and exercise behavioral beliefs that arose in the findings. Also, the inadequacy of the predictive ability of these exercise motivation theories compared to TRA was revealed. Then the running community literature was examined, focusing on the interactions of runners, the community hierarchy, the profile of a distance runner, and the runner's race. Following, applications of Bourdieu's social capital and social identity theory were explored to support a runner's identity. Subsequently, the studies of the motivations of runners, including marathoners and traveling sports participants, and CSE participants were reviewed to examine the frameworks used and discover the gaps that could be filled by the current study's use of TRA to predict the behavior of 5K race participants. Finally, the theoretical framework developed primarily by the application of Fishbein and Ajzen's (2010) TRA, with the addition of runner identity and past 5K race participation constructs, was

introduced, described, and supported by the aforementioned literature to predict the behavior of 5K race participants.

History of Theory of Reasoned Action

Prior to the introduction of TRA by Fishbein and Ajzen in 1975, controversial and theoretically weak research surrounded the relationship between attitude and behavior. Although it seemed logical that a person's attitudes would predict her behavior, most studies testing this theory drew inconclusive results. Despite these findings, the assumption that attitudes predicted behaviors was generally accepted. As a result, the relationship received little attention, with most studies simply assuming the attitude-behavior link existed and focusing on the development and measurement of attitudes (Ajzen & Fishbein, 1980). In order to predict behavior accurately, additional variables had to be included in the prediction model as independent contributors or moderators of the attitude-behavior relationship. Thus, Ajzen and Fishbein (1980) defined attitude as "the evaluation of any psychological object and drew a clear distinction between beliefs, attitudes, intentions, and behaviors" (p. 27).

TRA was based upon the assumption that human beings were usually quite rational and made systematic use of accessible information (Ajzen & Fishbein, 1980). According to TRA, behavior was determined by the intention to act. Ajzen and Fishbein's (1980) ultimate goal was to predict and understand an individual's behavior, assuming that most actions of social relevance were under volitional control. Volitional control was important to TRA because a person had to have control over the performance of the behavior in order for the intention to lead to the targeted behavior. For example, a person intending to go to a concert may be unable to do so because the event was sold out and, therefore, beyond their volitional control to attend. The two major driving forces of behavioral intentions were attitudinal and normative factors. The first component, an individual's attitude towards a behavior, was proposed to be a

function of behavioral beliefs about the perceived costs of performing the behavior and the person's evaluation of these consequences. The second component, subjective norms, was the actor's perceptions of what important or referent individuals or groups expected of her or him. These perceptions were created by the combination of the person's normative beliefs and the motivation to comply with the social referents (see Figure 1). The relative importance of the attitudinal and normative components was expected to vary depending on the behavior, the situation, and the individual differences of the actor (Ajzen & Fishbein, 1980). For example, when a person was making the decision to run a marathon, she had to have a positive attitude towards running the marathon and her friends and family had to be supportive of her marathon goal. If these conditions were met, the person would form the intention to run a marathon and would likely train and make plans for a targeted marathon event. According to TRA, on race day the person would run the marathon as long as she had the volitional control to do so. The predictive power of TRA supported by applications over the years has made it one of the most prevalent and well-received motivation theories in academic circles (Fishbein & Ajzen, 2010).

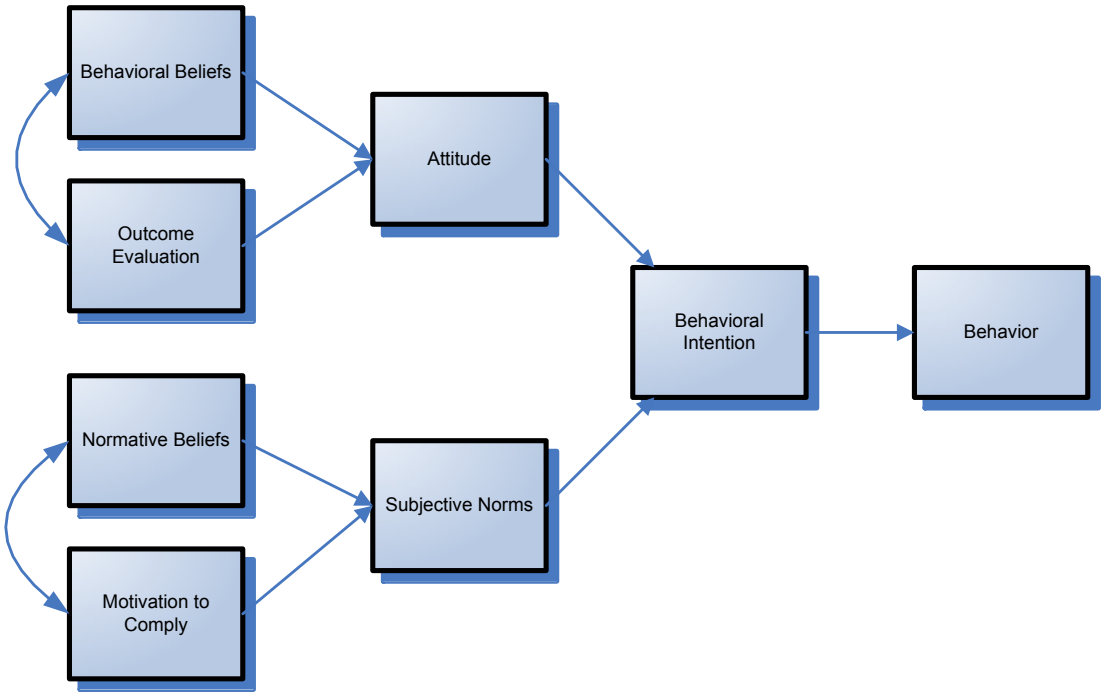

Figure 1. Theory of reasoned action model for the decision-making process. The behavioral beliefs, outcome evaluations, normative beliefs, and motivation to comply rectangles represent the available information a person has to form the intent to perform a behavior. Adapted from Understanding Attitudes and Predicting Social Behavior by Ajzen & Fishbein, 1980, p. 8.

Applications of the Theory of Reasoned Action

Fishbein and Ajzen (2010) noted that more than a thousand applications of TRA have been published in academic journals. Over the years, TRA has been applied to health and fitness behaviors such as fatty food consumption (Shepherd & Towler, 1992), moral behavior among juvenile athletes (Vallerand, Deshaies, Currier, Pelletier, & Mongeau, 1992), smoking cigarettes (Van den Putte, Saris, & Hoogstraten, 1995), and participating in recreational sport programs (Papadopoulos, Vlouhou, & Terzoglou, 2008). The earlier studies found that beliefs and knowledge contributed significantly to the formation of attitudes and, subsequently, to the intention to perform the behavior (Shepherd & Towler, 1992; Vallerand et al., 1992). Using structural equation modeling and path analysis techniques, studies showed that attitudes and subjective norms were strong direct determinants of behavioral intention (Vallerand et al., 1992; Van den Putte et al., 1995). Vallerand and colleagues (1992) and Papadopoulos et al.

(2008) found that an individual's attitude was a stronger predictor of intention than her subjective norms. A common criticism found throughout the extensive applications of TRA was the theory assumed that most human behaviors to some degree were subject to volitional control (Papadopoulos et al., 2008). As a result, Ajzen formed TPB to provide an answer to the calls for behavioral control accountability.

History of Theory of Planned Behavior

Building on TRA in 1985, Ajzen (2010) developed TPB based on the assumption that human beings usually behaved in a sensible manner by taking into account the available information and considering the implications of their actions. As in TRA, a person's intention to perform a behavior was the most important immediate determinant of that action. However, intentions and behaviors were now a function of three basic determinants, the attitude toward the behavior, the subjective norm, and the perceived behavioral control (PBC; Ajzen, 2010). Attitudes and subjective norms held the same definition in TPB as they did in TRA, but PBC was the sense of self-efficacy or ability to perform the behavior of interest (Ajzen, 2010).

According to TPB, people intended to perform a behavior when they evaluated it positively, when they experienced social pressure to perform it, and when they believed that they had the means and opportunity to do so (Ajzen, 2010). The intention under investigation influenced the relative importance of the attitude toward the behavior, subjective norm, and PBC. Using the example above, the person who had the positive attitude and perceived her friends and family accepted her decision to run a marathon now also had to perceive she possessed the ability to run a marathon in addition to the other components. If she perceived that she could run 26.2 miles with the proper training and commitment, then she would form the intention to run the marathon.

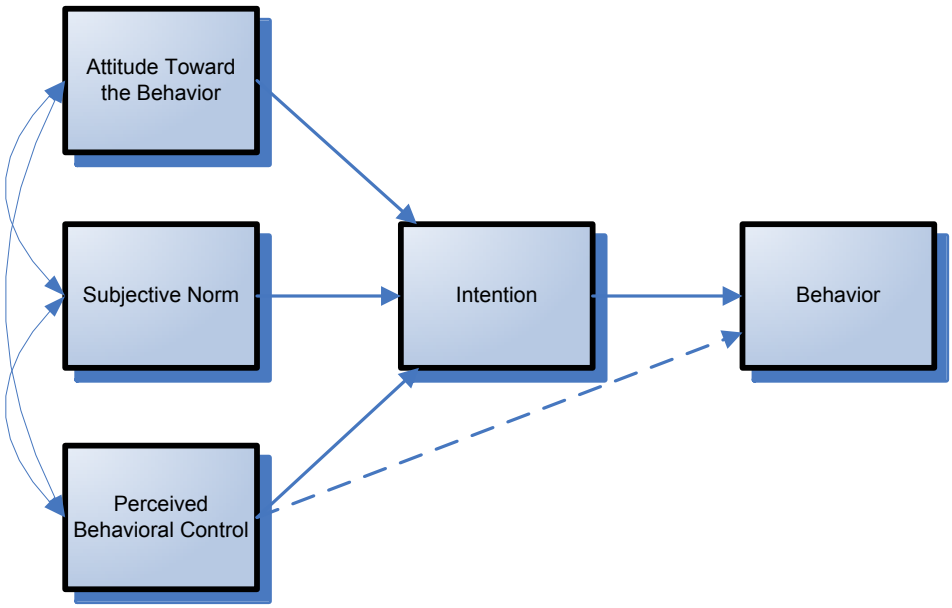

Figure 2. Theory of planned behavior model. This model illustrates how an individual's attitude, subjective norm, and perceived behavioral control influence each other as well as the individual's intention to perform a behavior. Adapted from Attitudes, Personality, and Behavior, 2nd Ed. by Ajzen, 2010, p. 117.

PBC had motivational implications for intentions (Ajzen, 2010). Individuals who believed they had neither the resources nor the opportunities to perform a certain behavior were unlikely to develop strong behavioral intentions to engage in it even if they held favorable attitudes toward the behavior and believed that others would approve of performing the behavior. Thus, the association between PBC and intention was not mediated by attitude and subjective norm (Ajzen, 2010). Further, a direct link between PBC and behavior was possible (see Figure 2). PBC could influence behavior indirectly or directly because it was considered a proxy or partial substitute for a measure of actual control. Ajzen (2010) found that behavior could usually be predicted with considerable accuracy from intentions and perceptions of behavioral control.

Enhanced Theory of Reasoned Action

After years of individual projects, Ajzen and Fishbein reunited to develop and improve the reasoned action model (Fishbein & Ajzen, 2010). This more comprehensive model traced the causes of behavior to the person's accessible beliefs (Ajzen, 2010; Fishbein & Ajzen, 2010). I

used this model to illustrate the process an individual may have gone through prior to participating in a 5K race (see Figure 3). As in the original TRA, behavioral beliefs were the beliefs individuals had about the likely consequences of the behavior, resulting in a favorable or unfavorable attitude towards the behavior (Ajzen, 2010). Whether an individual was a runner or not, she developed an attitude towards participating in 5K races based on their beliefs about the effects of running a 5K race.

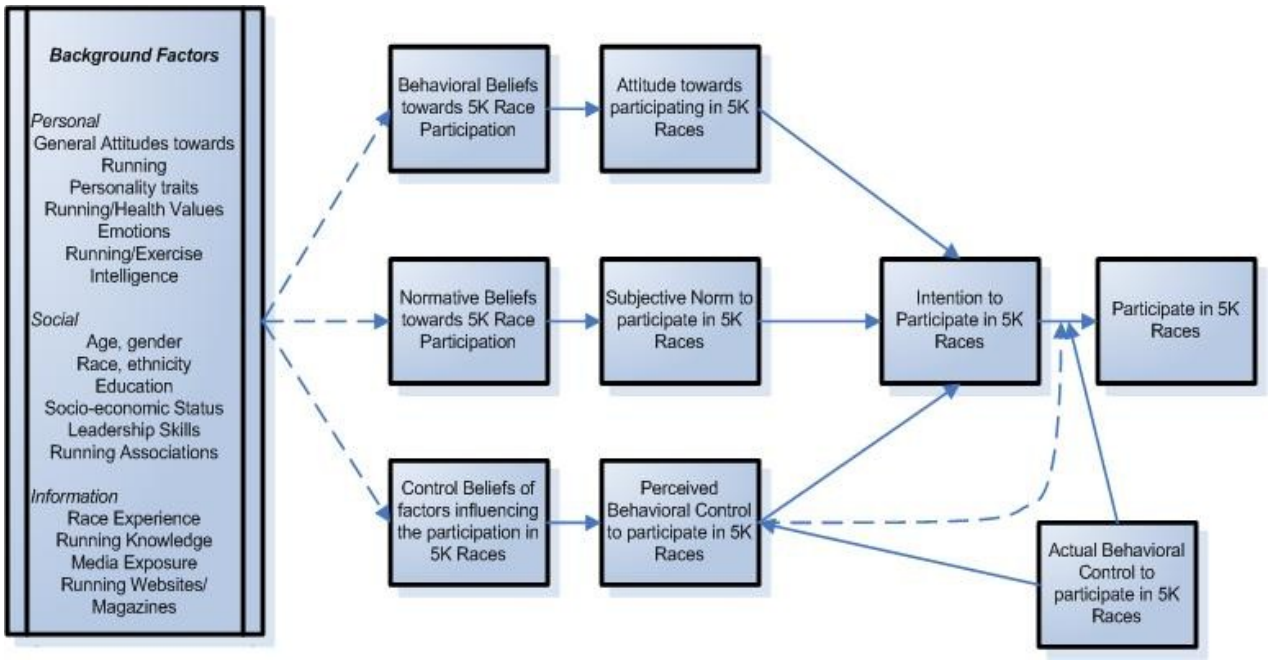

Figure 3. The theory of reasoned action approach applied to participation in 5K races. This model begins with background factors that inform beliefs, leading to the attitudes, subjective norms, and perceived behavioral control constructs that combine to form the intention to participate. The new model adds actual behavioral control to account for what individuals perceive they can do and what they can really do. Adapted from Predicting and Changing Behavior: The Reasoned Action Approach by Fishbein & Ajzen, 2010, p. 23.

Individuals developed normative beliefs based on the expectations of important people in their lives to perform the behavior. People were motivated to comply with these social referents and perceived social pressure to do so (Ajzen, 2010). In the case of 5K race participation, the individual looked to their families and friends, the running community, and others to see if they approved of participating in a 5K race and then acted accordingly.

Control beliefs were developed by the presence or absence of factors that facilitated or impeded performance of the behavior. They could have been based on previous experience, second-hand information about the behavior, observations of the experiences of others, and by other factors that increased or reduced the perceived difficulty to perform the behavior (Ajzen, 2010). In deciding whether or not to run, negative control beliefs could be hard to overcome. Some people believed their knees could not handle the strain of running, or their lungs could not last, or that they simply were not and never would be a runner. If an individual perceived that she could run a 5K race, she most likely would run a 5K race. If she believed she could not, she would not.

Generally, the more favorable the attitude and subjective norm and the greater the perceived control, the stronger a person's intention was to perform the behavior in question. As long as a person had sufficient *actual* control over the behavior, she was expected to carry out her intention when the opportunity arose. Intention was assumed to be the antecedent of behavior, but it was prudent to also consider perceived and actual behavioral control because many behaviors elicited difficulties of execution that limited volitional control (Ajzen, 2010). When a person pre-registered or planned for a 5K race, barring any injury, she was likely to participate on race day. Background factors may have influenced behavioral, normative, or control beliefs, but there was no necessary connection between them (Ajzen, 2010). These background factors were collected and analyzed, but they were not expected to be the strongest determinants in predicting a person's likelihood of participating in a 5K race. Prior to the introduction of this enhanced TRA by Fishbein and Ajzen in 2010, many studies compared the original TRA to TPB to see if PBC, the major difference between the two, really had a significant impact on the predictive ability of the models.

Comparing the Theory of Reasoned Action & the Theory of Planned Behavior

Numerous studies were performed on the predictive utility of TRA in comparison to TPB (e.g. Downs & Hausenblas, 2005; Yoo, 2006; Anderson & Lavallee, 2008). The studies that applied TRA and TPB to exercise behavior supported the predictive power of both of the models. Downs and Hausenblas (2005) examined 111 applications of TRA or TPB to leisure-time physical activity. In a meta-analysis of these studies, the researchers found that intention was a stronger predictor of exercise behavior than PBC. Also, subjective norm did not significantly predict intention to exercise. Downs and Hausenblas (2005) suggested that the limitations in the studies they examined were the long time lapse between the measures of intention and behavior, the compatibility principle was not followed for measuring intention and behavior at times, and the validity of the constructs were questionable.

Yoo (2006) studied TRA and TPB in combination with the Confucian model by replacing subjective norm with face saving and group conformity, important Confucian beliefs, to predict the exercise behavior of Korean students. The findings supported the predictive strength of intention in both TRA and TPB. Consistent with previous TRA and TPB applications, attitudes were found to be the significant predictor of exercise intention (Yoo, 2006).

Anderson and Lavallee (2008) examined the application of TRA and TPB to adhering to an athlete training program. Both theories significantly predicted the training adherence behavior of the athletes, but TPB appeared to have higher prediction ability than TRA. As a result, PBC was a stronger predictor of adherence behavior than intention to adhere to the training (Anderson & Lavallee, 2008). Despite the difference in the exercise behavior and the individuals studied, these applications comparing TRA and TPB demonstrated how the addition of PBC improved this social cognitive behavioral model when applied to leisure-time physical activity.

Applications of the Theory of Planned Behavior

Over the past two decades, TPB has been one of the most widely tested motivation theories in leisure-time physical activities. Some researchers applied TPB to different exercise behaviors using only TPB (Trinh, Rhodes, & Ryan, 2008; Kwan et al., 2009; Ries, Granados, & Galarraga, 2009; Brickell, Lange, & Chatzisarantis, 2010; Rhodes et al., 2010; Babiak, Mills, Tainsky, & Juravich, 2012) while others applied TPB in conjunction with other motivation theories (Huang, Lee, & Man-Ling, 2007; Hagger & Chatzisarantis, 2009; Gerber et al., 2011). The following sections provide a summary of the applications, the significance of the studies, and how they contributed to the theoretical development of the current study.

TPB. Trinh and colleagues (2008) used two independent studies to elicit salient TPB beliefs and then utilized those beliefs to evaluate gender differences related to physical activity intention and behavior among high school students. Gender differences were found; the behavioral beliefs of interacting with friends, physical fitness and appearance, and psychological health benefits were significant predictors of physical activity intention for boys, while they were not significant predictors for girls. For normative beliefs, the parents' opinion of physical activity was a stronger predictor of intention to perform for boys and the opinions of siblings and friends were stronger predictors of girls' intention to engage in physical activity. Physical ability, opportunity, and weather were significant control beliefs in predicting intention for boys, while only opportunity was a significant predictor of intention for girls. Beliefs were far less predictive of actual behavior for both boys and girls. A few control beliefs (interfere with school, interfere with other plans, weather) influenced the actual participation in physical activity for boys. Only the normative belief that friends would approve was a significant predictor of girls' physical activity behavior (Trinh et al., 2008). Although this study was applied to high school students, belief-based analysis using TPB was beneficial in determining how to target the

influential beliefs through interventions or strategic programming. In the current study, the running motivation beliefs were related to attitudes, norms, and PBC rather than directly on intention and behavior.

In a similar study, Kwan et al. (2009) applied TPB to first-year college students' exercise behavior in their first semester by first collecting the students' exercise intention and then their exercise behavior eight weeks later. Past exercise behavior was added to TPB constructs to test whether it affected the predictive power of TPB on exercise behavior. Generally, the findings supported the utility of TPB in predicting students' intentions toward physical activity; however, TPB did not significantly predict the students' exercise behavior. Past physical activity behavior significantly contributed to the predictive ability of TPB for the exercise intentions and behaviors of the students (Kwan et al., 2009). Transitioning from high school to college can be challenging, so Kwan and colleagues (2009) were not surprised to see that the students' behaviors towards physical activity were not sufficiently predicted through the application of TPB. Nevertheless, the researchers added past behavior to the theoretical framework, providing a valuable design model for the current study.

Ries and colleagues (2009) used TPB as a framework to construct a model to predict European grade school students' physical activity behavior. Using a two-survey data collection design, the students' intent to engage in physical activity was measured and the actual physical activity behavior was determined three months later (Ries et al., 2009). The TPB constructs attitudes and PBC were significantly stronger predictors of intention to be physically active than subjective norms. Thus, Ries and colleagues (2009) suggested that a social support construct was a sufficient substitute for subjective norms because parental support had emerged as one of the most important methods for influencing physically active behavior in children. Despite

the focus on youth, this TPB application on physical activity behaviors supported the strength of the theory in the realm of the current study.

Brickell and colleagues (2010) used a set of clinical outcome statistics on university students to determine if they were sufficient or insufficient exercisers. After assigning the students to one of these dichotomous groups, they analyzed the TPB constructs collected (i.e. intention, PBC, attitude towards exercise, subjective norm, controlling intention, autonomous intention, perceived autonomy support, and spontaneous implementation intention) to identify people who were "at risk" for their exercise behavior (Brickell et al., 2010). The findings indicated that no significant differences existed between the sufficient and insufficient exercisers in regards to the TPB constructs, however, the results supported that TPB significantly predicted behavior (Brickell et al., 2010). Although this study supported the predictive power of TPB, it also showed that dividing the same group up into two different groups based on outcome statistics was not a powerful survey design to test TPB. Therefore, pulling samples from different population sampling frames to determine the 5K race motivations of individuals in Harrisburg and York added strength to the current research design.

To acknowledge the routine-like nature physical activity can have, Rhodes and colleagues (2010) studied the effects of habit on TPB in predicting the physical activity behavior of college students. Using two surveys spaced two weeks apart to gather physical activity intention and then actual behavior, the findings supported that habit may function as a predictor of physical activity behavior independent of intention. The individuals who scored high on making physical activity a habit almost exclusively intended to exercise, and those who scored low on physical activity habits were not exercise intenders. As in the majority of TPB applications, intention was a strong significant predictor of behavior (Rhodes et al., 2010). In fact, the findings showed that virtually no participants in the study engaged in physical activity

without intending to do so. Therefore, Rhodes et al. (2010) suggested that physical activity should be "habituated" to successfully move from intention to behavior (p. 94). This study provided a good example of how to compare exercisers to non-exercisers. In the current study, the individuals who did not intend to participate in a 5K race would typically not actually participate because running a race could not be done by accident; the intent must be formed at some point, even if the individual was extrinsically motivated.

Most recently, Babiak and colleagues (2012) used the components of TPB in a qualitative study to learn about the landscape of professional athlete philanthropy. Through this study, TPB was found to be a model that combined strategic and altruistic perceptions to incorporate behavioral control, attitudes, subjective and moral norms, and self-identity. Professional athletes' attitudes towards philanthropy were that altruism offered positive outcomes of satisfaction, feelings of helping, and engagement in the community (Babiak et al., 2012). The athletes interviewed cared deeply about what people who were important to them thought of their charitable efforts and perceived that their celebrity status gave them the control or ability to accomplish their philanthropic goals (Babiak et al., 2012). This application of TPB supported the legitimacy of adding altruism as a behavioral belief in the current TRA study of 5K race participation motivation. Also, Babiak and colleagues (2012) provided valuable qualitative support for the addition of the runner identity variable to TRA as well as the prospect of a person's identity positively influencing the significance of subjective norms on an individual's intention to act.

As many of the aforementioned TPB studies added a variable or other relatively small influence to TPB, the following applications of TPB were substantially different because they integrated other theories with TPB. Integrating two distinct motivation theories is difficult because the theories usually overlap and may not employ the same definitions for the same

variables. Alternatively, they may have two different constructs that have the same definition. As such, the following section is a review and critique of the integration and application of TPB and adjacent motivation theories.

TPB and related motivation theories. Using the combination of TPB, self-determination theory (SDT; Deci & Ryan 2000 cited in Huang et al., 2007), and a five-factor personality model, Huang and colleagues (2007) strove to identify the effects of personality on individual exercise motivation and participation. Huang and colleagues (2007) also tested the influence of exercise behavior on their quality of life (i.e. psychological health, physical health, sexual satisfaction). SDT was developed to address the distinction between self-determined motivation and motivation through a controlled, external source (Hagger & Chatzisarantis, 2009). According to SDT, "three innate psychological needs (i.e. competence, relatedness, and autonomy)" merge to form the basis of an individual's self-motivation and subsequent behavior (Huang et al., 2007, p. 1190). Competence referred to the experience of mastery and challenge of a physical activity to broaden one's capabilities. Relatedness was the feeling of belonging elicited from engaging in the activity. Autonomy referred to performing actions that are self-initiated and willingly endorsed (La Guardia, 2009). The five personality factors used in this study were emotional stability, extroversion, agreeableness, conscientiousness, and openness to experience (Huang et al., 2007). Emotional stability referred to an individual's level-headedness and comfort with her situation. Extroversion was the ability of a person to make friends and thrive in social settings. Agreeableness referred to an individual's respect and acceptance of others. Conscientiousness was a person's ability to follow through on her plans. Openness to experience referred to an individual's acceptance of new ideas and improvement through change (Huang et al., 2007). The findings suggested that fitness club members' exercise participation was linked with personality and exercise motivation, that the intensity of exercise participation had a significant

effect on the individuals' quality of life, and that quality of life was improved by a regular exercise regimen (Huang et al., 2007). The primary limitation of this study was the absence of non-exercisers as a comparison group to show an improvement in the participants' quality of life. However, the general population of the current study was tapped to serve as a comparable group to the larger part of survey population who engaged in running activities (i.e. running club members, past 5K race participants, etc.). This study also provided support for including a health/fitness component to the behavioral beliefs in the TRA model.

As TPB and SDT seemed to fit well together in studies of physical activity behavior, Hagger and Chatzisarantis (2009) integrated 36 studies that examined TPB and SDT in the context of physical activity or healthy eating. According to path analysis of TPB and SDT components, past behavior was the strongest predictor of health-related behavior, followed by intention. In agreement with previous studies, attitude was the strongest predictor of intention, followed by past behavior and PBC. Hagger and Chatzisarantis (2009) also found the SDT components had strong influences on attitude and PBC. The findings supported the integration of TPB with SDT, but a limitation of the meta-analysis was that the studies included were mostly cross-sectional. Also, the researchers did not test the influence of PBC on behavior, as suggested by Fishbein and Ajzen (2010). The primary contribution of this meta-analysis provided for the current study was the support for the use of past behavior in the model as a predictor of behavior.

Gerber et al. (2011) employed TPB, SDT, and social cognitive theory to study whether exercise intentions depended on individuals' expected outcomes, self-efficacy beliefs, and the congruency of goals with personal values. Two surveys, three months apart, were distributed to adolescents to collect exercise intention, planning, outcome expectancies, self-efficacy, self-determination, and exercise participation (Gerber et al., 2011). The findings supported that

adolescents had more positive than negative outcome expectancies regarding regular exercise participation, felt unsure whether they could maintain regular exercise under adverse situations, were motivated to engage in regular exercise, and infrequently planned their participation in exercise (Gerber et al., 2011). Past and current participation measures were highly correlated and adolescents with high intentions and exercise behavior at the beginning of the study were highly likely to participate in exercise at the end of the study. Also, adolescents had stronger intentions to participate in exercise if they had positive outcome expectancies, if they felt they could pursue exercise under difficult circumstances, and if exercise was a high priority to them (Gerber et al., 2011). Although this study was focused on adolescents, the addition of past behavior as a predictor of future exercise behavior provided valuable direction to the current study. Also, this study provided further, and more recent, support that intentions significantly predict behavior.

Most of these applications of TPB were performed on grade school students, university students or fitness club members, emphasizing the need for a study that compared a documented physically-active group to a group with no evidence of recent engagement in physical activity. The current study attempted to fulfill this need by comparing past 5K race participants to a random sample of the general population in the Harrisburg and York areas.

TRA and TPB have existed among the most popular motivation theories for the past three decades. As evidenced above, a great number of studies were applying these theories to physical activity behaviors and finding support for the predictive strength of TRA and TPB. However, through an extensive search of the literature, TRA and/or TPB applications to individuals running, let alone participating in 5K races, were non-existent. To augment the TRA model in the current study, related exercise motivation literature was examined to determine

emerging behavioral beliefs that would serve as the key determinants of an individual's attitude towards participating in a 5K race.

Related Exercise Motivation Theories

During the time the popularity of TPB increased, other exercise motivation theories based on SDT (e.g. Losier & Vallerand, 2001; Standage, Sebire, & Loney, 2008; La Guardia, 2009; Lavigne, Hauw, Vallerand, Brunel, Blanchard, Cadorette, & Angot, 2009; Lewis & Sutton, 2011; Sebire, Standage, & Vansteenkiste, 2011), and goals/expectations (e.g. Xiang, Bruene, & McBride, 2004; Jones, Harris, Waller, & Coggins, 2005; Petherick & Markland, 2008; Stevenson & Lochbaum, 2008; Cetinkalp & Turksoy, 2011) were applied to individuals' physical activity behaviors. In addition, gender played a role in determining the reasons individuals engage in exercise activities (e.g. Koivula, 1999; Kilpatrick, Hebert, & Bartholomew, 2006; Grogan, Conner, & Smithson, 2006; Trinh et al., 2008). First, SDT studies were critiqued and the findings were presented to support the following constructs in the current study: PBC, competition/achievement, and runner identity. Then the studies applying goal and expectation motivations were reviewed and applied to the competition/achievement and social affiliation behavioral belief constructs in the current study. Finally, the studies pertaining to the effect of gender on exercise motivation were reviewed because, in the past, gender has played a role in the 5K race participation in the United States (i.e. females accounted for 57% of the event field; *Running USA's State of Sport 2012*, 2012).

SDT. As revealed above, most studies of exercise motivation using SDT as a framework supported that the more autonomy, competency, and relatedness the individual perceived she had, the more likely she was to participate in physical activities (e.g. Losier & Vallerand, 2001; Standage et al., 2008; Lavigne et al., 2009; Lewis & Sutton, 2011). Another SDT study found that autonomy was positively related to physical activity behaviors, indicating a possible mediating

role in a motivation model (Sebire et al., 2011). Autonomy and competency in this context spoke to the PBC construct in TRA. The stronger the PBC a person has of the behavior in question, the more likely she will form the intention and act on the behavior. As such, these applications provided evidence that the PBC component positively influenced the intention to participate in 5K races and the individuals' actual participation in the race.

In an SDT application comparing *exercise* motivation to *sports participation* motivation, Kilpatrick and colleagues (2006) found the motivations to engage in sports differed significantly from motivations to exercise. Further, this study provided evidence that motivations to engage in sports were more intrinsic in nature and motivations to engage in exercise were more extrinsic. These results also indicated that the motives associated with sports participation may lead to longer-term adherence than motivations associated with exercise (Kilpatrick et al., 2006). A reasonable assumption was that runners experienced camaraderie and competition while participating in 5K races, but they lack the team environment that traditional sports offer. Subsequently, this study provided evidence that both intrinsic (i.e. achievement) and extrinsic (i.e. competition) motivations drove individuals to participate in 5K races.

In a qualitative study, La Guardia (2009) inferred that, based on SDT, individuals constructed their identities through a process of intrinsic motivation and internalization that was supported by a coherent set of values, goals, and behaviors. Linking 5K race motivation to a runner identity was a construct added to the current TRA application. This study supported the addition of an identity variable to the motivation theory because of the intrinsic nature of the motivation to participate in charitable 5K races.

Although SDT provided a quality framework within which researchers could determine the nature of the motivations of individuals, from intrinsic to extrinsic, the theory was found to be too distal to be an accurate predictor of physical activity behaviors (Sebire et al., 2011). This

finding was supported by Fishbein and Ajzen's (2010) differentiation between goals and behaviors. SDT may provide beneficial background information about what motivated individuals to participate in physical activity, but was weaker at predicting the actual physical activity behavior than TRA.

Goals/expectations. Achievement goal theory, according to Xiang et al. (2004), was central to "understanding student motivation and achievement behavior in physical education" (p. 220). Achievement goals refer to individuals' purposes for engaging in achievement-related behavior and the meaning they attribute to the behavior. According to studies using achievement goal theory, mastery goals focused on competence-building through learning and task development, while performance goals focused on dominating others in a race (e.g. Xiang et al., 2004; Petherick & Markland, 2008). Mastery goals were stronger motivators than performance goals. Also, mastery goals related positively and significantly to effort and performance in a running program (Xiang et al., 2004). Jones and colleagues (2005) warned against setting high expectations or goals for physical activity achievements because "false hope could lead to disappointment and failure" (p. 373). In the current study, the individuals were asked about their intentions to participate in a fairly achievable race. A 5K race can even be finished in less than an hour by fast walkers. Thus, forming the goal to finish a 5K race was likely not perceived as a daunting feat and was less likely to end in disappointment and failure for participants. Therefore, the 5K race distance focus of the current study was not an absurd idea posed to the general population sample, unlike a marathon motivation survey might be.

Stevenson and Lochbaum (2008) found that mastery-approach goals significantly mediated confidence on leisure-time exercise motivation. Also, performance avoidance goals, endorsed by people who did not want to embarrass themselves in public, suppressed the influence of confidence on exercise motivation (Stevenson & Lochbaum, 2008). For example,

individuals who form mastery-approach goals about biking become more confident with the increasing endurance, speed, and skill they attain through training. However, if these individuals believe they are at risk of falling or looking bad compared to other bikers, they will likely lack the confidence to compete in bike races. Task-oriented goals were predictive of skill development, ego-oriented goals were positive predictors of achievement and competition motivations, and self-efficacy measures predicted team affiliation, activity, and fitness in a study of adolescent soccer players (Cetinkalp & Turksoy, 2011). These findings support the inclusion of the competition/achievement and the social affiliation constructs as behavioral beliefs in the current study.

Gender effects. Researchers who studied exercise motivation theories analyzed how the gender of the individuals interacted with the different exercise motivation factors. In SDT applications, females were less likely to engage in exercise than males (Standage et al., 2008) and gender was the strongest predictor of exercise frequency (Lewis & Sutton, 2011). Other SDT studies comparing exercise motivations and sports participation motivations found that challenge, competition, social recognition, and endurance were more important overall to men while weight management was a stronger motivator for women (e.g. Kilpatrick et al., 2006; Grogan et al., 2006). Enjoyment was significantly more important in sports participation for men than women (Kilpatrick et al., 2006). Studies using achievement goal theory showed that males were more concerned with winning and demonstrating ability than females (Petherick & Markland, 2008).

Using the Bem Sex Role Inventory scale, Koivula (1999) distinguished gender-typed and non-gender typed individuals to determine the difference between their sports participation motivations. Competition was the strongest sports participation motivation for men and androgynous and cross-gendered women. Gender-typed men and women were motivated to

participate in sports for their appearance (Koivula, 1999). In the current study, gender was an important variable to collect due to the difference in running capabilities between men and women. For example, a woman who can run a 5K race in 18 minutes would be viewed as exceptionally "faster" than a man who finished in the same time. As such, these studies support the inclusion of the behavioral beliefs (competition/achievement, health/fitness, altruism, and social affiliation) so that any differing beliefs by gender could be exposed.

Summary of Motivation Theories

As referenced above, Kilpatrick and colleagues (2006) found that exercise motivations differed significantly from sports participation motivations. As such, exercise was assumed to be extrinsically-motivated physical activities such as going to the gym or participating in an aerobics class. Sports participation was assumed to be intrinsically-motivated team-based activities, such as playing soccer or hockey. The difficulty in the current study was that running did not fit into either of these categories. Running is mostly an individual activity, with a lot of alone time on the road, track or trail, which is similar to exercise activities. However, when running races, an individual is engaged in competition, has the opportunity to join a "team" of fundraisers for single events, and feels camaraderie, similar to sports participation. To decipher what, exactly, was included in race participation motivation, the running community was examined.

Running Community

As mentioned in Chapter 1, the First Running Boom took place in the 1970's when non-elite runners and joggers began to participate in road races regularly and running became a popular active leisure activity (Walton & Butryn, 2006). Running USA (2012) experts argued that the Second Running Boom occurred over the past eight years because each year's participation achieved a new record high, with more than 13.9 million people finishing a road race in 2011. Running events were also at a record high at 23,000 races (*Running USA's State of Sport 2012*,

2012). This growing interest in running races by the masses magnified the need to determine what was motivating them to compete in races. People typically began their race running careers with the achievable, accessible, and affordable 5K race. Therefore, the argument in the current study was that the richest research could be gathered from the 5K race participants because it was rarely the focus of running studies and could have served as the first step to a lucrative running career.

According to Smith (1998), the boundaries of the running community are "unknown and unknowable" (p. 175). Many people run without ever joining a club or competing in a race. Many others compete in races regularly and never identify themselves as "runners." As such, the running community could not be identified easily by a membership number, location, or an official status. In fact, two short decades ago, 5K races were advertised by word-of-mouth because there was no official network (i.e. internet websites) or consistent race sponsor to send out paper race applications. In the current study and in the scholarly literature reviewed, the running community included people who were considered elite runners and competed in races internationally, non-elite runners who trained for races while juggling work and family obligations, runners who did not compete and simply ran for fitness or recreation, and runners who did not identify as "runners", but ran regularly anyway.

The review of the running community literature began with the studies focusing on the social interactions of the runners. These studies examined the exchanges that runners engaged in to prove they belonged in the community and the sacrifices they made to adhere to the "running code" (Nash, 1980; Gimlin, 2010). Secondly, the running community hierarchical studies were examined to discover why runners accepted their position in the informal hierarchy and how their status could feed into an identity and feeling of camaraderie with other runners in similar positions. These studies looked at the possible marginalization of runners

according to gender (e.g. Abbas, 2004; Jutel, 2009), age (e.g. Abbas, 2004), and physical size (e.g. Chase, 2008). Thirdly, the profile of a distance runner was examined through the theoretical runner's body and routine. Ethnographic studies focused on a runner's body and routine (e.g. Collinson, 2003; Hockey & Collinson, 2006; Hockey, 2006; Sailors, 2009; Hanold, 2010).

Fourth, the studies on races were evaluated to discover the benefits and opportunities they afforded runners and the cities that hosted the races (e.g. Higgins & Lauzon, 2002; Caro & Garcia, 2007; Coleman & Ramchandani, 2010; Hatzigeroriadis & Biddle, 2010). Building on these characteristics of the running community, a person's identity as a runner afforded them prestige because the strength, skill, speed, and endurance displayed were socially valued patterns of behavior (Smith, 1998). Ultimately, the identity-building of a runner was examined through the lens of Bourdieu's social capital (e.g. Smith, 1998; Abbas, 2004; Nettleson & Hardey, 2006; Bridel & Rail, 2007; Shipway & Jones, 2008), Foucault's technologies of the body (e.g. Bridel & Rail, 2007; Chase, 2008; Hanold, 2010), and social identity theory (e.g. Shipway & Jones, 2008; Axelsen & Robinson, 2009; Snelgrove & Wood, 2010). Further, studies employing social identity theory to runner tourists (e.g. Shipway & Jones, 2008; Axelsen & Robinson, 2009; Snelgrove &Wood, 2010), and CSE participants (Wood et al., 2010) were examined to illustrate how runner identity was developed in the current study. The evaluation of the running community began with the interactions of the runners with other runners and non-runners, suggesting the exclusivity and prestige that could be gained by understanding and abiding by the running "code."

Social Interactions of Runners

Nash (1980) used Erving Goffman's early writings on social parameters for the management and distortion of information to study the role that lying played in being a member of the running community. Goffman wrote about the kinds of cooperation that being a team

member required and how communities have “fronts” or images that they must uphold through performances. According to Goffman, lies could be employed as symbolic performances for runners to show their alliance to the community (Nash, 1980). To apply this to the running community, a runner must uphold the following beliefs: running is fun, running is good for you, running makes you a better person, running gives you a sense of well-being, running makes competitive sense, running hurts, and running requires knowledge (Nash, 1980). These beliefs about running made up the “code” of talk in running scenes.

Nash (1980) created a conversational matrix for code talking, informed by qualitative interviews with runners. Nomic talk was defined as situations where the “running code” or language was adhered to because both the sender and the receiver were runners. In other words, in a nomic talk exchange the runners understood and upheld the code in its truest form based on the aforementioned running beliefs (Nash, 1980). Ritualized lying occurred when the sender and receiver were both runners but they allowed each other to increase their mileage or speed up their mile time within reason to brag about running. Code telling was when the sender, as a runner, could exaggerate her or his running experience because the receiver was not a runner and could not judge her or him. Truth telling was when the runner/sender violated one or more of the running beliefs by speaking against it to a non-runner (Nash, 1980). For example, a runner was breaking the code if they admitted to a non-runner that running was not *always* fun. Despite the fact that this theoretical application was written over three decades ago, Goffman’s ritualized lying was still relevant in the running culture in recent years. As a participant observer, I have witnessed all of these exchanges at one time or another. In fact, the most common example was when runners would use the code to decide whether another person was a “true” runner or not by asking about PRs and average 5K race speed as opposed to

marathon mile times. However, Goffman's writings on rituals could also be applied to what was acceptable in public spaces.

Goffman (1963 cited in Gimlin, 2010) implied that people were expected to adhere to certain rituals while in public, such as the "courtesy of civil inattention" given to others acknowledging their presence but not expecting an interaction (p. 271). While running in public, runners became open to harassment when they violated the rituals by ignoring others entirely. Applying Goffman's writings, runners should have a sufficient level of "involvement" as well as disinterest in what they were doing because when runners became too focused, they became vulnerable. Goffman's work supported a generally accepted norm of multiple involvements by people in public. Thus, public running was problematic because it breached civil inattention by involving intense concentration, focus, and sweat (Gimlin, 2010). Through qualitative research, Gimlin (2010) found that when runners were ridiculed for their displays of excessive self-involvement, they were typically mocked for their class, gender, and status as a runner. As such, once a person was classified by non-runners as a runner, she was subject to not only the ridicule of the non-runners, but also the informal hierarchy within her running community.

Running Community Hierarchy

Over the years, the running culture built informal hierarchical social structures according to speed, class, gender, body fat and age. Prior to the 1970's, the running community consisted of strictly elite-level runners. Recreational runners were not welcomed into the fold until road races began to grow in number and size to include all levels of individual running speeds. Running was considered a middle-class, leisure-time activity in academic literature, because lower class individuals, working long hours at typically physically active jobs, did not have the time or the money to participate in road races. Also, young adult males with slim builds had the "ideal" body-type for running, so individuals who did not fit this profile

automatically lost status in the hierarchy because they would never be equipped to win prestigious races. The following section reviewed studies focused on these hierarchical running institutions.

Smith (1998) identified three different participant-groups (athletes, runners, and joggers) in the running community using a figurational framework to examine the group dynamics. The "athletes" were the elite group of runners who actually had the potential to win a race. They made the distinction between winners and losers; infinitely more losers than winners existed in a race. The "runners" were those people who ran and trained regularly at levels that were far above basic fitness requirements. Yet, even with substantial training and dedication, these runners did not have a realistic chance of winning any race. The "joggers" were those who trained infrequently, barely participated in races, and were externally motivated to run for body maintenance. The dynamics between these participant-groups involved an informal status hierarchy (Smith, 1998). In addition to these typologies of runner disparities based on speed, disparities of class, gender, and age existed contributing to the informal social structure.

Abbas (2004) studied the inequality of class, gender, and age in the running community and offered a realist analysis combined with Bourdieu's concept of embodiment to explore the running culture. Bourdieu (1993 cited in Abbas, 2004) developed the idea that people embody their social class through engagement with class-based practices and owning items with specific cultural value. In her application, Abbas (2004) added gender and age to social class as elements that contained causal powers and liabilities in the running culture, suggesting that realist theory illustrated how cultural aspects of running culture contributed to the constitution of an emergent middle-classness (Abbas, 2004).

Abbas (2004) performed a document analysis on *Runner's World* and interviewed ten runners who did not read the magazine to see if the findings from the magazine were congruent with "real" runners. The runners interviewed agreed with the findings from the magazines concerning the middle-classness of the language used in the magazine, the images of the hard bodies of runners, and the notion that young male bodies were superior to women of all ages and older male runners (Abbas, 2004).

Abbas (2004) argued that "hard bodies" were symbolically linked to middle-classness and represented the fear this group had of falling into the class below (p. 162). In another study, Hanold (2010) suggested the self-empowerment and nonaggressive bodily toughness valued in the distance running culture appealed to the middle-class participants. Therefore, social class could be considered a causal power or liability, depending on the class of the runner. Abbas (2004) inferred that a woman's gender was a causal liability in the running culture because she could never reach the level of fitness a man could reach. Aging literature indicated that society was preoccupied with the youthful body and contributed to the de-valuing of older people within society. Thus, age was also seen as a causal liability in the running culture, especially with older women because body fat typically increased as a person aged (Abbas, 2004). Female runners were subject to the gamut of physical attributes that could hurt their status in the running hierarchy, and family obligations could add to the complexity of a woman runner's training schedule.

Women experienced gender bias not only in the running magazines, but also in running books written for women. These books reproduced the discourse of the female body as fragile and in need of extraneous support, reinforcing women's traditional role of wife, mother, and nurturer and at odds with the belief that sports increased women's social empowerment (Jutel, 2009). Jutel (2009) found a "husband" theme throughout her document analysis, where the

books advised the wives against beating their husbands in a race or the women's need to find child care so they could train for races. Thus, the female gender was considered "less than" in the context of the running literature reviewed. As such, race directors strove to eradicate this inequality by including categories based on gender, so women would only compete against other women officially. Another attempt at equalizing the racing field was the addition of the Clydesdale category, typically an opt-in class for runners who weighed more than 200 pounds.

Chase (2008) argued that Clydesdale runners, runners who had larger and fatter bodies, have been discriminated against because their bodies do not fit the norm in the running community. The dominant discourses that runners were supposed to be lean and fit were reinforced by running media, shoe stores, and others with "ideal" running bodies (Chase, 2008, p. 137). Through qualitative interviews, larger runners said they felt inferior to more fit runners' bodies, their bodies were not properly disciplined, and that they did not belong in the running community. Due to their dedication to running, these marginalized runners joined the Clydesdale community to find acceptance in an environment that was at times antagonistic to individuals who did not meet the normative standards (Chase, 2008). This level of hostility and marginalization was not usually witnessed at the 5K race level since it was typically an introductory road race. Therefore, people were encouraging when they saw larger participants because they assumed they were getting involved for their health or a good cause.

Runners who participate in race distances from 2 miles up to 200 miles are considered distance runners. They are continually training and tuning and tweaking their route to improve their running experience. The following profile of a distance runner outlines how a person comes to identify herself as a runner through discipline and adhering to a routine.

Profile of a Distance Runner

Distance runners spend a considerable amount of time training, either for a specific race or simply to maintain a certain running form. The magnitude of commitment required to consider oneself a runner varies by the person, goal, and ability. Routine, everyday tasks are required to train for races and build up the mileage to become a runner (Patton, 2002). As such, a number of ethnomethodological studies focused on a runner's body, routine and training schedule. Understanding the processes of a distance runner was important to the current study because distance runners normally participated in 5K races as part of their training or as their goal race. Therefore, the runner may have had more competition or fitness-focused motivations than altruistic reasons for their participation.

The runner's body. The running community has been studied through the lens of Foucault's view of self-instigation and self-imposed discipline to describe the commitment of distance running as a serious leisure activity that required considerable personal effort, knowledge, and training (Collinson, 2003). Foucault noted that the power-knowledge nexus produced runners through technology of dominance and technology of the self, enacted through practices. Through a running discourse, knowledge about running subjected runners to certain identities or modes of behavior. Foucault proposed that the body was the site upon and through which the effects of discourses become apparent through disciplinary practices (Hanold, 2010). Hanold (2010) used Foucault's docility-utility framework to highlight how ultra-running females viewed the running community, their bodies, and pain. Interestingly, the ultra-runners did not believe there was a normative body type for running nor that competition was the driving force behind the running community (Hanold, 2010). The ultra-runners were more interested in getting their bodies into optimum performance shape rather than looking a certain

way. All of the ultra-runners interviewed described "good pain" and how the discourse of pushing the limits and finishing extreme running distances was empowering (Hanold, 2010).

Runners and other athletes used the body as the site of domination through practices of discipline and surveillance (Bridel & Rail, 2007). Foucault argued that docile bodies could be transformed and improved through disciplinary processes. The production of a fit body of a runner was often a docile body because it was highly disciplined through training programs, fitness testing, rigorous practice, and healthy eating (Chase, 2008). Jeremy Bentham's panopticon was the metaphor that Foucault used to convey the normalizing gaze that led to a runner's self-surveillance of their body. The panopticon was a prison design in which prisoners were unaware of being watched, but knew that the possibility existed. Within the social realm of running, the panoptic gazes of other runners or the general public are mechanisms that encourage runners to self-regulate their behaviors without physical enforcement or punishment (Bridel & Rail, 2007). Subsequently, all bodies that ran any distance were open to the spectator gaze, disciplinary processes, and surveillance, reinforcing the notion that there was an ideal runner's body that was fit, lean, and fast (Chase, 2008).

Foucault's technologies of the body and panopticism fit with the more intense level of runners who regularly participated in long distance races and ran nearly every day. However, the subjects in the current study were the runners who participate in 5K races and, therefore, were not often exposed to such intense scrutiny. In fact, those who did not fit the accepted body type of the typical runner were more often cheered on by spectators at 5K races because 5K races were usually taken as the preliminary races that welcomed people into the running community.

The runner's routine. Hockey and Collinson (2006) described how runners construct their individual realities as a distance runner through visualizing their running routes. While

selecting a training route, people who ran together built a shared knowledge of the course based on safety, performance, and visual issues. Due to the previously mentioned challenges of training in public, harassment or comments had the potential to escalate into safety concerns. The quality of the training route created by the runner was directly associated with the performance of the runner. Finally, runners visually analyzed the terrain on the training route to ensure optimal performance and safety (Hockey & Collinson, 2006).

Hockey (2006) expanded upon the visualization of the training route to add an aural sense that included listening to the breathing patterns or utterances of a running partner to assess their comfort level with the route. Runners encounter different scents while training, from biological smells, to memory-invoking scents, to odors that located them within the route. Touch was also important to a runner's routine because as the foot hits the ground, the runner could avoid injury by monitoring the pressure and placement (Hockey, 2006). Despite the availability of the senses to inform the creation of a training route, runners have begun to use technology to aid in the construction of their routine.

With the advancement of technology, running gear has been developed or "improved" to aid a runner's training. However, Sailors (2009) used Tenner's revenge, recomplicating, and regenerating effects to show that these technological advances might not have been as good as they appeared. Revenge effects occurred when runners bought shoes that were designed to decrease injuries that, instead, increased injuries because the runner compromised her or his form. Recomplicating effects occurred when the GPS watches were introduced to a runner's workout because they were supposed increase efficiency but actually made the task of running a route more complicated by making a lot of data available for analysis (Sailors, 2009). Regenerating effects happened when race directors began using electronic chip timing instead of gun timing for their races because all of the different start times created a multitude of

different races at the same time (Sailors, 2009). Runners have adapted to the new complexities introduced into racing by technology, even at the 5K race level through the increased use of chip timing, GPS watches to monitor race speed and actual finishing time, and minimalist shoes that mimic barefoot running.

The Runner's Race

Non-elite mass participation events, such as marathons, half marathons, and 5K races, grew rapidly in popularity over the past eight years (see *Running USA's State of Sport 2012*, 2012). As introduced in Chapter 1, these charity sporting events (CSEs) were valuable marketing tools for the host cities to showcase their attractions and for the nonprofits to raise awareness for their charitable cause. Repeatedly, marathons brought in millions of dollars to cities all over the world in just one weekend. Marathons are typically self-financing because participants were willing to pay for their entry and the race is operated by an army of volunteers (Coleman & Ramchandani, 2010). The current study focused on 5K races because they were more attainable, affordable, and easier to find on any given weekend. Also, very few studies focused on 5K races due to the wide range of motivations and elusive participants.

Using a customer satisfaction model, Caro and Garcia (2007) found that arousal increased a runner's satisfaction at a race. The researchers suggested that race directors stimulate the emotions of the runners during the race with spectator participation. Arousal also had an indirect effect on customer loyalty, inciting runners to come back to the race again. Managers were advised to improve the quality of service and ensure their communication strategy was not making false promises of a fast race (Caro & Garcia, 2007). This customer service focus applied to 5K races because, with so many of them taking place on the weekends from April to November, race directors needed to make their particular race attractive to the

local running community. This customer service approach to inciting loyalty from runners supported the inclusion of a past participation variable in the current study.

Higgins and Lauzon (2002) used Rogers' diffusion of innovations theory to provide a way of understanding how new ideas and practices could reach a population of potential event participants and donors. Successful CSEs facilitated a celebratory function, encouraged the social cohesion of volunteers, and united diverse subsets of the community. The researchers found that the CSEs in their study focused on either the cause or the event. The CSEs that focused on the cause offered feelings of social activism and altruism in exchange for donating to a charitable cause. The CSEs that focused on the event encouraged competitiveness through starting on time, posting results, timing, emphasizing safety, and having well-planned routes (Higgins & Lauzon, 2002). Higgins and Lauzon's (2002) findings supported the addition of altruism and competition/achievement as behavioral beliefs in the current study's framework. The next section turns the focus onto how the people who participate in 5K races could value their beliefs so intensely that they build an identity around their reason(s) for participating in 5K races.

The Runner's Identity

As previously stated, many people run without ever joining a club or competing in a race. Countless others compete in races regularly and never identify themselves as "runners." As such, people who identify themselves as runners do so for a variety of different reasons. The social status and prestige afforded to runners was described using Bourdieu's notion of social capital. Then, social identity theory was introduced and applied to people involved in sports tourism and CSEs. In these applications, runners measured their social value by identifying with an aspect of running.

Bourdieu's Social Capital

Bourdieu's idea of social capital was that a person could attain status, access, and power through cultural, physical, and symbolic means and produce inequalities within the community that valued the social capital in question (Calhoun et al., 2007). To gain status as a runner, an individual had to collect social capital through her knowledge, credibility and identification with her local running community (Shipway & Jones, 2008). Borrowing from Bourdieu, the social capital acquired through the running community was mostly cultural and physical (Calhoun et al., 2007; Nettleton & Hardey, 2006). The displays of strength, skill, speed and endurance were socially-valued patterns of behavior. A runner gained the respect of other runners and spectators at a race by finishing first or near the top of her age group. The more often an elite runner won a race, the more well-known she was in the running community and the higher she was in the hierarchy of runners (Smith, 1998).

Non-elite runners also felt prestigious because of their physical capacity to complete a race, regardless of the finishing position (Smith, 1998). The physical capital gained through running was transferrable to the workplace because the lean bodies of the employees have come to stand for the fit organization (Abbas, 2004). In this way, the runners' bodies had social exchange value in the form of physical capital in their offices that could have resulted in promotions or bonuses (Bridel & Rail, 2007). Bourdieu's social capital contributed to the runner identity construct in the current 5K race participation framework by the relevant application to non-elite runners, who accounted for the majority of the subjects in the current study. This collection of social capital used by individuals to display their status as a runner leads to individuals identifying themselves socially with the running community.

Social Identity Theories

Social identity theory has been used to describe the dedication, commitment, and effort runners displayed to endorse the running community and how they defined themselves by their group (e.g. Shipway & Jones, 2008; Axelsen & Robinson, 2009; Snelgrove & Wood, 2010). Individuals constructed a sense of self through adjusting to situations by taking on social roles. The social interaction with the running community shaped a runner's identity over time. As such, identities were based on social influences and norms and the constructed runner identity committed the runner to certain attitudes and behaviors (Snelgrove & Wood, 2010). This argument contributed to the current study because Fishbein and Ajzen's (2010) TRA stated that attitudes, combined with norms and PBC, led to intentions that were the strongest predictor of behaviors. As such, important data could be gathered from testing whether certain attitudes, based on the behavioral beliefs, correlated with whether a participant identified herself as a runner or not.

A social identity theory introduced by Abrams and Hogg (1990 cited in Shipway & Jones, 2008) emphasized the significance of individuals defining themselves in terms of their group rather than their individual characteristics. This identification with a group began with an individual identifying and internalizing the meaningful characteristics of the group to become part of the in-group. Next, the members of the in-group began to compare the attributes of the in-group in favor of the out-groups. Generally, people were likely to seek positive and distinctive social identities. Individuals were thus motivated to increase the value of the in-group, focusing on the positive traits of the in-group and emphasizing the negative traits of the out-groups (Shipway & Jones, 2008). Finally, the social identification with the group obligated members to self-regulate their behavior to mirror the norms and values of the group (Shipway & Jones, 2008). To apply this social identity theory to the running community, an individual would

identify the meaningful characteristics of the running community through running magazines, races, and running websites. Then she would take on the running characteristics, possibly through language or clothing, and begin to focus on the runner attributes that differentiated them, in a good way, from the non-runners. Finally, the runner would become a prototype of the running community, exhibiting prescribed attributes, feelings, and behaviors. Social identity theories have been applied in studies of sports tourists and CSE participants, further supporting the addition of an identity variable to discover the role identity played in the motivations of 5K race participants.

Applications of social identity theory. Shipway and Jones (2008) explored what it meant to be a sports tourist and a runner at the London Marathon using a social identity framework. Their findings showed that runners identified with distance running activities by wearing t-shirts from previous races and sharing race experiences. Runners made a significant effort to train to be a distance runner by committing to their training regimen and finishing the target race (Shipway & Jones, 2008). Individuals' running careers were enhanced as they participated in increasingly difficult distances and races. The cultural capital these experiences contributed to the runner's social identity was important motivation for runners to continue their participation in distant races (Shipway & Jones, 2008). Although the commitment and intensity required to participate in the races in this study were far greater than the training required for a local 5K race, the accomplishment of crossing the finish line, wearing race t-shirts from other races the runners were proud of, and sharing experiences through racing stories could also be found at a 5K race.

Axelsen and Robinson (2009) consolidated research on the distance runner as a sports tourist and identified two types of runners, the social animal and the high-risk runner. The social animal identified with the unique group of traveling distance runners. The high-risk

runners were attracted to hazardous experiences, including the social risks in committing to a training regimen, testing motivations, keeping schedules, and sacrificing personal activities and goals (Axelsen & Robinson, 2009). As a distance runner traveled to different marathons all over the world, she used storytelling to enhance her marathon-linked social identity (Axelsen & Robinson, 2009). Marathons provided an arena for collaborating and sharing running endeavors, where common social norms, hierarchies, and customs vanished (Axelsen & Robinson, 2009).

Using Stryker's (1968) identity theory that individuals constructed a sense of self by taking on social roles, Snelgrove and Wood (2010) studied the motivations and related behavioral information of the bike race participants. A person with a "cause fundraiser identity" was more likely to fundraise for a specific cause than others (Snelgrove & Wood, 2010, p. 272). A person with a "sport identity" exhibited loyalty to an activity or event and were willing to travel to a sport event (Snelgrove & Wood, 2010, p. 273). The results suggested that first-time visitors did not exhibit a strong identity, but that identities tied to the cause and the sport-at-hand were developed over time (Snelgrove & Wood, 2010). Identities tied to the cause or the sport were extremely important at the 5K race level because the event was not a daunting task for the people motivated by the charity and the runners utilized 5K races for competition, training and social purposes.

Wood et al. (2010) also used Stryker's (1968) identity theory to develop charity identities and sport identities, segment the volunteer fundraisers by identity, and compare them based on behavioral loyalty and the amount of money raised. Participants at two MS bike tours in Canada were surveyed and cluster analysis resulted in four identities: (1) *event enthusiasts* who identified with the cause and the sport, (2) *cause fundraisers* who identified with the cause as their social identity, (3) *road warriors* who identified with the sport as their social identity,

and (4) *non-identifiers* who did not identify with the cause nor the sport. Event enthusiasts raised significantly more money than the other identities and participated in the event for a significantly longer time, exhibiting loyalty (Wood et al., 2010). Although this study was done on bike race participants, the findings were highly relevant to 5K races because the distance of the race did not deter new or unpracticed runners, but was still a timed race where trained runners could achieve personal records and fulfill competitive needs.

As previously mentioned, a person's identity can play an important part in the development of attitudes and behaviors performed. In the current study, if a person identified with the running community or the charitable organization that a 5K race benefitted, she was expected to behave in ways congruent with the group. Therefore, the addition of a runner identity variable was prudent in the current study to account for the effect of social identity on motivation, intention, and behavior.

Motivation to Run

Motivation has been a challenging concept to measure since it first piqued the interest of psychological and sociological researchers. In fact, prior to Ajzen and Fishbein's (1980) introduction and outlining of TRA, research on discovering why people behaved the way they did was relatively sparse, weak and unorganized. When Masters and his colleagues began studying the motivations of marathon runners in the early 1990's, they found the running motivations to be far more diverse than they initially expected. Masters and Jolton (1995) reported that the few studies done on runners resulted in the runners stating that they were motivated to run more by psychological reasons, rather than health and fitness reasons. As the diversity of motivations that people had to participate in marathons became apparent, the motivation of marathoners scale (MOMS) created by Masters, Ogles, and Jolton in 1993, became a vital part of marathon social cognitive and behavioral studies.

Motivations of Marathoners

Masters, Ogles, and Jolton (1993) created MOMS to assess the reasons for marathon running. The psychological scales were based on self-esteem, psychological coping, and life meaning. The physical scales measured health orientation and weight concern. The social scales included affiliation and social recognition. Finally, the achievement scales focused on competition and personal goal achievement (Masters et al., 1993; Masters & Ogles, 1995; Ogles & Masters, 2000; Ogles & Masters, 2003; Havenar & Lochbaum, 2007). These scales were combined to develop a marathoner's motivation to run, and with such diverse scales, marathoners could be motivated by a wide range of factors. The following MOMS applications supported the validity and reliability of measuring a runner's motivational beliefs.

Masters and Ogles (1995) examined the motivations of first-time marathon participants, mid-level experienced marathoners, and veteran marathon runners. They found that the runners' motivations differed as a function of their experience with marathons. As such, the veteran group adopted a marathon social identity based on recognition, affiliation, health, and competition. This social identity was a secondary motivation for mid-level runners, who were primarily motivated by personal performance enhancement and other psychological benefits. The rookie marathon group did not have enough experience with marathons to be significantly motivated by any one scale (Masters & Ogles, 1995). This study contributed to the validity of adding the runner identity variable in the current study of 5K race participants.

Ogles and Masters (2000) used MOMS to compare the motivations and training habits used to prepare for running a marathon between older and younger male marathon runners. In this comparison, older runners were more motivated by a general health orientation, weight concern, life meaning, and affiliation with other runners. Younger runners ran for personal goal achievement. Older runners trained longer in advance and completed more marathons than

younger runners. Younger runners had significantly lower finishing times than older runners (Ogles & Masters, 2000). These findings supported the collection of age as a control or background variable in the current study because the age of a runner can affect their motivations or behavioral beliefs.

Ogles and Masters (2003) further investigated the differences of marathon runners by their motivations, using MOMS and a cluster analysis. As a result, five clusters were identified: Running Enthusiasts, Lifestyle Managers, Goal Achievers, Personal Accomplishers, and Competitive Achievers. Running Enthusiasts endorsed all nine MOMS scales; they were veterans and disproportionately female. Lifestyle Managers were motivated by improving their physical and psychological well-being; they tended to train alone and to be female. Personal Goal Achievers wanted to improve their running speed and perform to the best of their abilities; they were mostly younger and faster males. Personal Accomplishers endorsed health orientation, personal achievement, and self-esteem; they were the most common group. Competitive Achievers primarily endorsed personal goal achievement, self-esteem, health orientation, life meaning, and competition; they were fast, younger males who trained significantly more than the other groups (Ogles & Masters, 2003). Similar typologies of 5K race runners were expected to emerge in the current study because, with the exception of altruism, these scales captured the motivations of runners at all distances and levels of ability.

Havenar and Lochbaum (2007) used MOMS to compare the marathon race finishers in a 20-week training program to the pre-race dropouts in the program. First, the study showed that most of the runners who intended to participate in the marathon dropped out (70%). A surprising result was that the dropouts scored significantly higher in social recognition and affiliation than the race finishers. Weight concern appeared to be a bigger influence on motivation to run than social recognition and affiliation for both finishers and dropouts

(Havenar & Lochbaum, 2007). Although this study was focused on marathon runners, the findings provided valuable support for the health/fitness behavioral belief component.

Completing a marathon required significantly more training, time, and dedication than completing a 5K race. As such, MOMS alone could not be used to measure the motivations of 5K race runners. The most significant limitation in MOMS was that it did not measure altruism. An altruism component was added to the current study with the support from the CSE motivation literature. An important element of marathon motivations that deserved attention was the vast population of out-of-towners who traveled to participate in marathons.

Motivations of Traveling Runners

The tourism industry increasingly used marathons and other CSEs to showcase cities and attractions. As the popularity grew, studies began to focus on what was motivating the participants to travel (e.g. McGehee, Yoon, & Cardenas, 2003; Gillett & Kelly, 2006; Snelgove & Wood, 2010), and how segmenting the market may help increase participation (e.g. McGehee et al., 2003; Gillett & Kelly, 2006; Axelsen & Robinson, 2009). The following two sections review literature focused on the motivations of traveling sports participants and how to market to potential destination race participants and identifies the contributions to the current study.

Traveling sporting event motivations. McGehee and colleagues (2003) examined how the runner's level of involvement impacted participation in races outside of her community. They used Havitz, Dimanche, and Bogel's (1994 cited in McGehee et al., 2003) definition of involvement; "an unobservable state of motivation, arousal, or interest, that is evoked by a particular stimulus or situation and has drive properties" (p. 307). Runners with higher involvement in overnight road race travel reported significantly more trips and spent significantly more in running-related expenditures than recreational runners with lower levels of involvement (McGehee et al., 2003). Since 5K races did not normally attract participants who

had to spend significant amounts of money on travel, the race could appeal to participants at all levels of involvement.

Gillett and Kelly (2006) qualitatively identified five motivations of traveling participants in masters' games in Australia: competition, achievement, socializing, camaraderie, and athletic identity. Masters sport was a generic title given to games or events that included people of a certain age group, usually 40 years and older (Gillett & Kelly, 2006). This study suggested that travel influenced the strength of a motive through the meaning that participants attached to the experience and that non-local masters participants were regarded as more serious competitors (Gillett & Kelly, 2006). Although this study only looked at one age group, it provided beneficial evidence that the out-of-town participants in a 5K race might have stronger motives or identify more intensely as a runner or with the charitable cause. This study also supported the use of competition/achievement, social affiliation, and identity variables in the current study.

In a study involving a bike race, Snelgrove and Wood (2010) examined the difference in motivations between first-time participants and repeat visitors using push and pull motivations of traveling sports participants. Push motivations were factors that drove people to want to raise funds for a particular cause and pull motivations were factors driven by the type of event offered (Snelgrove & Wood, 2010). Results suggested that first-time participants did not have a strong connection to the cause or sport. Repeat visitors were not as motivated by the physical aspects of the event and learning about the destination as first-time visitors. Race participants said they were strongly motivated to participate to support others. Another important motivation expressed was the opportunity to socialize with others (Snelgrove & Wood, 2010). Although this study was done on cyclists, the motivations of traveling sports participants could also be applied to first-time and repeat runners. The findings supported the addition of the past participation variable in the current study.

Runner market segmentation. To understand the wants and needs of a target group, researchers divided the market by different characteristics of the group (i.e. traveling recreational runners). Segmenting the market was an important step in advertising races that appeal to runners all over the world. Market segmentation allowed race directors to use marketing dollars effectively, assist in creating the position of the race on a global scale, and categorize traveling runners to incite their interest in the race (McGehee et al., 2003). The cluster analysis performed by McGehee and colleagues (2003) indicated that runners with high levels of involvement in traveling to races exhibited different traveling behavior than runners with lower levels of involvement. Axelsen and Robinson (2009) also found that market segmentation could be used to understand the behavioral motivations and types of the distance runner sport tourist. These findings supported Ogles and Masters' (2000; 2003) statement that runners had different motivations depending on their experience and involvement.

However, studies showed mixed results on what market segmentation would do for sports tourism. In consumer behavior research, individuals with high levels of involvement formed strong brand loyalties and would be more likely to attend the same race in the future. McGehee et al. (2003) suggested that market segmentation based on motivation or involvement would prove valuable in increasing involvement to the level of race loyalty. However, Axelsen and Robinson (2009) said that distance runners were not highly predisposed to repeat location-specific tourism experiences, thus less likely to travel to revisit the same marathon location. Further, sport tourist runners were motivated to collect places and, as races became more prevalent, the runners were driven to the races and cities they had not yet experienced (Axelsen & Robinson, 2009). Market segmentation of the participants at the 5K race level did not have these ambiguities because tourists rarely traveled specifically for a 5K race; therefore, their participation was not typically affected by cost or travel commitment.

Consistent with social marketing literature, Taylor and Shanka (2008) suggested segmenting CSE participants by their motivations and satisfaction with the event was the most efficient way to compete for the participants' money and time. In order to identify motivating factors, a survey of CSE participants was conducted and the resultant principal components were: achievement, involvement, status, and socialization (Taylor & Shanka, 2008). Further, achievement was more likely to encourage repeat participation and involvement was a strong motivation for females. Involvement was the only predictor of event satisfaction and overall satisfaction was significantly related to past participation and intent to participate in future events (Taylor & Shanka, 2008). These findings supported the inclusion of the competition/achievement, social affiliation, runner identity, and past participation variables in predicting the participation of 5K race runners. Further, the motivations of CSE participants were reviewed and critiqued to further support the validity of the diverse motivations predicting 5K race participation.

Motivations of CSE Participants

As previously mentioned, the motivations of 5K race participants were expected to be widely diverse considering the availability, affordability and achievability of the race distance. As such, the CSE participant motivations were important to the current study to capture the motivations of the 5K participants who were there for the charitable cause rather than the sport. Studies showed that participants of CSEs were motivated by altruism (e.g. Higgins & Lauzon, 2002; Webber, 2003; Bennett et al., 2007; Neale, Filo, & Funk, 2007; Filo et al., 2009, 2010; Won et al., 2010; Wood et al., 2010), social affiliation (e.g. Higgins & Lauzon, 2002; Bennett et al., 2007; Taylor & Shanka, 2008; Filo et al., 2009; Won et al., 2010), health/fitness (e.g. Bennett et al., 2007; Filo et al., 2009), and competition/achievement (e.g. Bennett et al., 2007; Neale et al., 2007; Taylor & Shanka, 2008; Filo et al., 2010; Won et al., 2010; Wood et al.,

2010). These motivations emerged through the running community literature and were supported by more recent studies concerning CSE participants.

Psychological continuum model. Funk and James' (2001 cited in Beaton et al., 2009) psychological continuum model (PCM) suggested that personal and social situational factors combined to develop loyalty in consumers. According to PCM, individuals moved through awareness, attraction, attachment, and allegiance stages, becoming more attached and loyal to the event as the stages progressed. Studies on the motivations to participate in CSEs have examined the people who have already participated in such events, indicating they have already experienced awareness and attraction. Therefore, research has focused on the attachment stage (Filo et al., 2009). At the attachment stage, people were attracted to an event, had personal meaning and importance for the event, and created a self-concept; these inputs resulted in strengthening their attitudes towards the event and assigning emotional, functional, and symbolic meaning to the event (Beaton et al., 2009). Using PCM as the theoretical framework, a number of studies have been done on the role of the CSE in fostering attachment (e.g. Neale et al., 2007; Filo et al., 2009, 2010, 2011).

Filo and colleagues (2009, 2010, 2011) examined how individuals' attachment to a CSE (1) gave them emotional, symbolic, and functional meaning, (2) influenced the sponsor image, sponsor product purchase intent, and future event participation intent, and (3) affected the motivations of participants in a charity-focused event versus a recreation-focused event. The motives used in these studies were categorized as recreation and charity motives. The recreation motives were intellectual, social, competency, and escape, based on Beard and Ragheb's (1983 cited in Filo et al., 2011) dimensions of leisure motivation. Intellectual motivation was the individuals' drive to participate in sports that involved "mental action and exploration" (Filo et al., 2011, p. 495). The social motivation aligned with human relationships,

competency reflected the individuals' need to achieve and compete, and escape focused on the stress relief afforded by the leisure activity (Filo et al., 2011). The charity motives were categorized as reciprocity, self-esteem, need to help others, and desire to improve the charity (Filo et al., 2011). Reciprocity related to the participants' expectation that the charity would benefit the individual in the future. Self-esteem was the individuals' improved sense of self-worth from participating in the CSE. The need to help others was considered the altruistic ideal and the desire to improve the charity was the individuals' motive to contribute to the charity's success (Filo et al., 2011). The following paragraphs outlined the important findings of these studies and related the significance they held for the current study on 5K race motivation.

Filo and colleagues (2009) found emerging themes through qualitative interviews with participants at a Lance Armstrong CSE were: camaraderie, cause, and competency. Camaraderie was represented by the solidarity and friendship that arose through attachment to the CSE. Cause was demonstrated by the goals of the participants to raise awareness and support the charity. Competency was derived from the fitness required to compete in the event (Filo et al., 2009). These themes supported the social affiliation, altruism, and health/fitness behavioral belief components in the current study.

Using a survey distributed to participants of a 3M Half Marathon, Filo and colleagues (2010) found that recreation and charity motives contributed to event attachment and sponsor image, that sponsor image and event attachment contributed to intent to purchase the sponsor's product, and that event attachment contributed to a person's future intention to participate in the CSE. The significant findings linked the motives of the participants to future behaviors regarding the CSE. This relationship between motives and future intentions and behaviors supported the significance of 5K race motivations as behavioral beliefs in the current

study. Specifically, this study supported the inclusion of the social affiliation, altruism, identity, and intention to run variables in the current study.

In a third study completed by Filo et al. (2011), the recreation and charity motivations of participants in a race that focuses on the charitable cause (i.e. LiveStrong Challenge) were compared to the motivations of participants in a recreation-focused event (i.e. 3M Half Marathon). Recreation and charity-based motives significantly contributed to event attachment. At the charity-focused CSE, the motives that contributed significantly to attachment were: social, reciprocity, self-esteem, need to help others, and desire to improve the charity. At the recreation-focused CSE, all motives except for need to help others contributed to event attachment. Ultimately, the charity-based motives made a stronger contribution to attachment at the charity-focused CSE and the recreation motives had a stronger influence on attachment at the recreation-focused CSE (Filo et al., 2011). These findings supported the notion that race directors should emphasize the sport event over the charity because the recreation-focused CSE inspired a wider range of significant relationships between motive and attachment to the event. For the current study, the contributions of Filo and colleagues (2009, 2010, 2011) supported the significance of a past participation variable because behavioral beliefs or motives can lead to attachment and a stronger intention to participate in a 5K event in the future. The inspirations of CSE participants were also studied through alternate motivation models, with similar findings presented in the next section.

Other CSE motivation models. Bennett et al. (2007) created a motivation model to discover the relative importance of altruistic considerations, sports achievement, physical or mental stimulation, and the social dimensions of participating in a CSE. Individuals who participated in at least one CSE were surveyed and the major finding was that a person's level of involvement with the charitable cause in question and the desire to pursue a healthy lifestyle

were the two dominant motivations for CSE participants (Bennett et al., 2007). Subsequently, participants with these motivations were willing to pay higher fees for the events. Females were found to participate in CSEs more often than men, suggesting congruency with the healthy lifestyle motivation (Bennett et al., 2007). This study supported the altruism and health/fitness components of the current TRA framework. It also provided support for gender effects based on differing 5K race motivations.

As alluded to in the introduction, nonprofit health organizations used CSEs as their primary fundraising tool because sport events were popular, encouraged spectators, and represented healthy lifestyles (Won et al., 2010). Derived from motivation survey responses of participants in an American Cancer Society CSE, the six CSE motivations identified were: philanthropy, family needs, group collaboration, social/entertainment, sports, and external/benefits (ranked by strength; Won et al., 2010). Philanthropy and external/benefits were significant predictors of event satisfaction, while philanthropy and family needs significantly predicted repeat participation. Female participants demonstrated higher philanthropy, family, and collaboration motivations than male participants, indicating that gender might be useful for market segmentation (Won et al., 2010). This study supported the inclusion of altruism and past participation in the current 5K race motivation model.

For more than three decades, TRA and TPB have guided much of the research on predicting physical activity behavior (see Yoo, 2006; Huang et al., 2007; Papadopoulos et al., 2008). Further, an intense scrutiny of the running community, runner identity, and different motivation models applied to marathoners, traveling runners, and CSE participants was employed to ensure TRA would fill the gaps and support the literature. As such, an application of TRA to the 5K race motivations of individuals contributed a 5K-focused study to the mostly marathon-focused running literature, a quantitative study to the mostly qualitative running

community literature, and a survey/secondary data research design to mitigate the error created by individuals self-reporting behaviors. With the addition of past participation and runner identity also supported by the literature, TRA was utilized as the conceptual framework of the current research question: What motivates individuals to participate in 5K races?

Theoretical Framework

Fishbein and Ajzen (2010) believed that "human social behavior follows reasonably and often spontaneously from the information or beliefs people possess about the behavior under consideration" (p. 20). In other words, if the determinants of a behavior were identified, the researcher could predict the behavior with some accuracy. Also, maintaining strict compatibility between measures in terms of target, action, context, and time was paramount in predicting behavior (Fishbein & Ajzen, 2010). In this study, the behavior was defined as participating in a 5K race in the Harrisburg and York area in late summer or fall 2012.

The theoretical framework followed Fishbein & Ajzen's (2010) TRA closely, with only past 5K race participation and identity added to strengthen the model (see Figure 4). The background factors were collected to inform the model, but not necessarily to have influence on the salient beliefs. The salient behavioral beliefs collected were competition/ achievement, health/fitness, altruism, and social affiliation. In combination with past behavior, these beliefs determined the positive or negative attitude an individual had towards participating in 5K races. The strength of a runner's identity could be affected by perceived norm. Perceived norm could also be affected by the past behavior and runner identity. PBC was a major factor in this study because of the nature of running a 5K race. In the general population, the assumption can be made that many more people perceive that they cannot run than those who think they can finish a 5K race. Attitudes, identity, perceived norm, past behavior and PBC combined to create

an individuals' intention to participate in a 5K race. Finally, intention and past behavior were proposed to be the direct antecedents of actual participation in a 5K race.

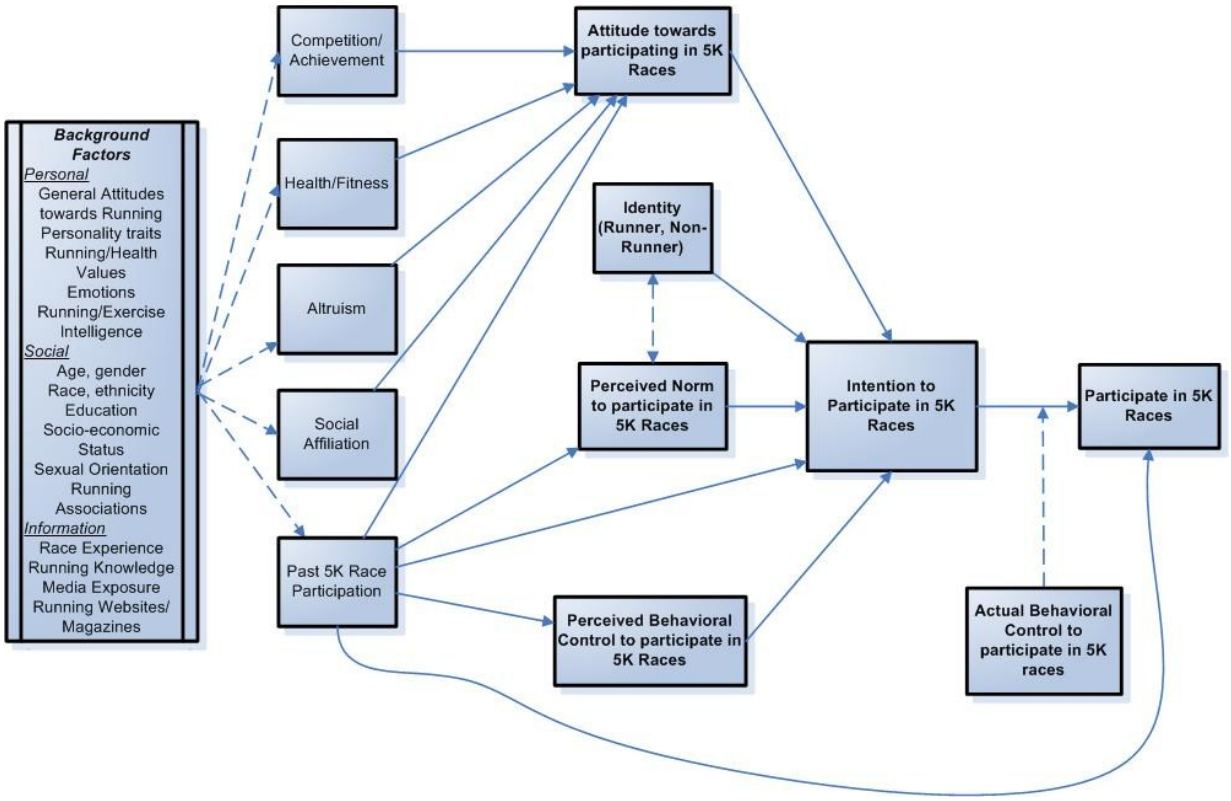

Figure 4. TRA, identity, and past participation applied to 5K race participation. This theoretical framework was constructed through an extensive literature review of TRA, running, and CSE participation motivations. Adapted from Predicting and Changing Behavior: The Reasoned Action Approach by Fishbein & Ajzen, 2010, p. 23.

Theory of Reasoned Action Constructs

The constructs included in the current study of TRA were: Attitudes (preceded by Competition/Achievement, Health/Fitness, Altruism, and Social Affiliation), Perceived Norms, Perceived Behavioral Control (PBC), Identity, Past Participation, Intention, Actual Behavioral Control, and Behavior. These constructs were combined to develop a model of 5K race participant motivations.

Attitudes

Most of TPB/TRA applications in the physical activity motivation literature found that attitudes were the strongest predictor of intention to participate in physical activities (e.g. Yoo,

2006; Papadopoulos et al., 2008; Hagger & Chatzisarantis, 2009; Kwan et al., 2009). Thus, the identification of the beliefs that fed into the attitudes of 5K race participants or potential participants was a vital part of the literature and methodology of the current study.

Attitudes were an individual's disposition to respond in favor of or against an event. Attitudes could be positive or negative because they were evaluative in nature through indirect measures (Ajzen, 2010). Attitudes towards 5K races were multidimensional, inferred from cognitive, affective, or conative responses (Fishbein & Ajzen, 2010). Cognitive responses were expressions of belief about the 5K race or perceptual reactions to the 5K race. Affective responses were expressions of feelings towards running 5K races or physiological reactions to 5K races. Conative responses were expressions of intention to participate in a 5K race or overt behaviors with respect to participating in a 5K race (Ajzen, 2010).

The expectancy-value model was the most popular model in determining attitude formation and structure. Fishbein's (1963, 1967 cited in Fishbein & Ajzen, 2010) expectancy-value model held that people formed attitudes automatically as new beliefs were created about the object. Armitage (2003) found that homogeneous beliefs were stronger predictors of intention than heterogeneous beliefs predicted behavior. Thus, individuals were assumed to have preexisting positive or negative evaluations about participating in a 5K race that, depending on the strength of the beliefs, became linked to participating in any 5K race. As such, the attitude towards participating in future 5K races will automatically elicit a summative evaluation response towards participating (Fishbein & Ajzen, 2010).

Salient beliefs were beliefs that came readily to mind when thinking about an object. Accessible beliefs were activated automatically with little cognitive effort in the actual presence of the attitude object. Fishbein and Ajzen (2010) suggested that a relatively small number of beliefs determined a person's attitude at any given moment. In this study, the salient beliefs

that were identified in the literature and used to determine an individual's attitude towards participating in a 5K race were: competition/achievement, health/fitness, altruism, and social affiliation.

Competition/achievement. The first behavioral belief added to the TRA framework was competition/achievement. The competition part of the belief was defined as an individual's propensity to compete to win, whether it was against others in the race, past records, or her own PR. Achievement was defined as an individuals' attempt to reach a set goal. Involvement with a sport, such as biking, had a significant impact on the decision to participate in CSEs. For example, a dedicated biker would be more likely to participate in Lance Armstrong's LiveStrong Challenge because it is a prestigious bike race that would have intense competitors in attendance. Competitive runners were attracted by the status of the event and were highly informed and knowledgeable about running (Bennett et al, 2007). Achieving a goal and accomplishing a challenge were significant motivations identified in physical activity (e.g. Petherick & Markland, 2008; Stevenson & Lochbaum, 2008; Cetinkalp & Turksoy, 2011) and CSE participation studies (e.g. Gillett & Kelly, 2006; Nettleson & Hardey, 2006; Berger et al., 2007; Taylor & Shanka, 2008; Won et al., 2010).

A few studies found that competition was a significant motivator in sports (e.g. Koivula, 1999; Grogan et al., 2006; Kilpatrick et al., 2006) and road race participation (e.g. Gillett & Kelly, 2006). Competition was the highest ranked motivation for men in a sports participation study, while it was much further down on the list for women (Kilpatrick et al., 2006). However, Hanold (2010) argued that competition was not the primary motivator of the majority of the running community; instead, runners pushed their limits to achieve their personal goals.

Health/fitness. The second behavioral belief included in the TRA framework was health/fitness. The health component referred to an individual's motivation to run to benefit

their physical and mental condition. The fitness factor was defined as a person's motivation to run to supplement their current workout regimen or to maintain a certain body shape. Abbas (2004) claimed that running attracted women and older people who did not possess the "ideal" runner's body because the activity improved their health and fitness (p. 171). The pursuit of a healthy lifestyle was a strong significant motive in a study of motivations to participate in CSEs, such as 5K races (Bennett et al., 2007). Competency, or mastering the physical challenge and fitness provided by CSEs, was a belief that emerged qualitatively as a participant motivation (Filo et al., 2009). Escape and intellectual were significant attributes of the recreation motivation, indicating that people participate in CSEs for their mental health as well (see Filo et al., 2010). Multiple studies found that health and fitness were significant motivators in running (e.g. Hanold, 2010), race (e.g. Gillett & Kelly, 2006; Nettleson & Hardey, 2006), and CSE (e.g. Higgins & Lauzon, 2002; Scott & Solomon, 2003; Nettleson & Hardey, 2006) participation. Health and fitness were also significant motivators in studies on physical activity participation (e.g. Koivula, 1999; Kilpatrick et al., 2006).

Altruism. The third behavioral belief component added to the model was altruism. Altruism was defined as an individuals' desire to contribute to a worthy cause. Bennett and colleagues (2007) found that the major reason people participated in CSEs was to be involved with a good cause. Cause was a value that emerged qualitatively from a CSE motivation study, indicating that 5K race participants were inspired by goals to raise awareness and support the charity (Filo et al., 2009). Multiple studies on exercise and CSE participation motivation provided findings that health-enhancing behaviors, such as running, were significantly associated with pro-social behaviors, such as giving money and time to worthy causes (e.g. Higgins & Lauzon, 2002; Scott & Solomon, 2003; Nettleson & Hardey, 2006; Berger et al., 2007; Taylor & Shanka, 2008; Filo et al., 2010; Jessor, Turbin, & Costa, 2010; Snelgrove & Wood, 2010; Won et al.,

2010). Other significant attributes of the altruism belief were reciprocity, self-esteem, need to help others, and desire to improve the charity (see Filo et al., 2011). Babiak and colleagues (2012) suggested that individuals with positive altruistic beliefs expected outcomes of satisfaction, helping feelings, and community engagement. Self-serving altruism had also been found in the CSE participation literature, indicating the events were fun, provided tax relief, enhanced the participants' image, and improved self-esteem (Babiak et al., 2012). In the current study, both pure and self-serving altruism was considered and expected. When surveying individuals about their altruistic motivations, researchers run the risk of positive response bias because people tend to over-report their good deeds or intentions. Taking this risk into account, the altruism motivation, in any form, was still a significant behavioral belief in the literature so it was included in the current study.

Social affiliation. The fourth behavioral belief added to the TRA model was social affiliation. Social affiliation was defined as an individuals' motivation to participate in a 5K race to spend time with friends, meet new friends, or attain camaraderie with others in the running community. People who "desire to mix socially" were significantly motivated to participate in CSEs, indicating that the 5K race provided a communal atmosphere for participants (Bennett et al., 2007, p. 173). Axelsen and Robinson (2009) found that distance runners were social animals and identified with an exclusive group. Filo and colleagues (2009) found camaraderie, represented by the solidarity and friendship felt by event participants, was a theme that emerged from their study of CSEs. Multiple studies on sports (e.g. Gillett & Kelly, 2006; Cetinkalp & Turksoy, 2011), exercise (e.g. Kilpatrick et al., 2006; Spink et al., 2010), and CSE (e.g. Higgins & Lauzon, 2002; Scott & Solomon, 2003; Taylor & Shanka, 2008; Filo et al., 2009, 2010, 2011; Snelgrove & Wood, 2010; Won et al., 2010) participation motivations found that social

affiliation was a significant antecedent of participation motivations. Conversely, Koivula (1999) found that socialization was the least important motivation for sports participation.

Perceived Norms

Fishbein and Ajzen (2010) viewed norms as a person's perceived social pressure to perform a given behavior and the resultant perceived norm was a direct determinant of the intention to perform the behavior. A person's perceived norm was created by combining injunctive and descriptive norms. Injunctive norms were the individual's perceptions of what should be done in performing a behavior and descriptive norms were the person's perceptions of whether others were performing the behavior in question. French and Raven's (1959 cited in Ajzen & Fishbein, 2010) bases of social power encompassed: (1)reward; agent exerting the pressure was thought to have the power to reward; (2)coercive; agent may exert punishment for noncompliance; (3) legitimate; agent had the right to prescribe behavior due to her position; (4) expert; agent had the knowledge, expertise, skills, or abilities to encourage compliance; and (5) referent; the individual identified with the agent with the power (p.130). All five of the bases of social power were relevant for explaining the influence of injunctive norms, but only expert and referent provided an explanation for descriptive norm influence (Fishbein & Ajzen, 2010). As with attitudes, perceived norms were determined by salient normative beliefs. Salient normative beliefs were similar to norms, except for the beliefs were for a specific referent individual or group (Fishbein & Ajzen, 2010).

TRA/TPB studies on physical activity motivations had mixed results on the predictive power of perceived norm. Some found it was a significant predictor of intention (e.g. Papadopoulos et al., 2008; Hagger & Chatzisarantis, 2009; Kwan et al., 2009) and some found that it had a weak causal relationship (e.g. Yoo, 2006). Bridel and Rail (2007) deduced in a

qualitative study of marathon runners that the runners' body was produced and valued through constructed social norms.

Perceived Behavioral Control

Fishbein and Ajzen (2010) stated that PBC was a general feeling of a person's "competence or capability to influence behaviors" (p. 153). PBC was formed by considering the available information, skills, opportunities, and resources required to perform the behavior and the possible obstacles that may occur. With positive attitudes and perceived norms, the greater the perceived control an individual had, the stronger the intent to perform the behavior. More importantly, if an individual did not think she had control over the behavior, she did not develop a strong intention to perform the behavior even if she had a positive attitude and perceived norm towards the behavior in question (Fishbein & Ajzen, 2010). As with attitudes and perceived norms, PBC was determined by salient, accessible control beliefs. These control beliefs were based on past experience with the behavior, second-hand information, direct observations of the experiences of others, and other factors that increased or reduced perceived ability to perform the behavior (Fishbein & Ajzen, 2010).

The TPB applications of PBC provided strong evidence that it was a determinant of physical activity intentions (e.g. Hagger & Chatzisarantis, 2009; Kwan et al., 2009) or behavior (e.g. Rhodes et al., 2010; Cetinkalp & Turksoy, 2011). The SDT applications of perceived competence also provided support for its predictive power of sports and physical activity motivation (e.g. Losier & Vallerand, 2001; Stevenson & Lochbaum, 2008).

Identity

Due to the inclusive nature of the running community, many studies indicated that individuals in the community developed their runner identity through running (e.g. Nash, 1980; Smith, 1998; Abbas, 2004; Gimlin, 2010; Hanold, 2010), racing (e.g. Gillett & Kelly, 2006;

Nettleson & Hardey, 2006; Bridel & Rail, 2007; Shipway & Jones, 2008; Axelsen & Robinson, 2009) and participating in CSEs (e.g. Berger et al., 2007; Babiak et al., 2012). When runners gathered together at a community event, they created an interactive space where the usual social norms, hierarchies, and customs were replaced with celebration and camaraderie (Axelsen & Robinson, 2009).

Some studies have used Bourdieu's social capital to explain a runner's identity (see Nettleson & Hardey, 2006), while others explained the identity of a runner through Foucault's technologies of the body (see Bridel & Rail, 2007; Chase, 2008), and still others used social identity theories (see Shipway & Jones, 2008; Snelgrove & Wood, 2010; Wood et al., 2010). The current study supported a combination of the identity theories of Stryker (1968) and Abrams and Hogg (1990) and Bourdieu's social capital. Stryker's (1968) identity theory held that individuals constructed their sense of self by adjusting to situations by taking on social roles. Social identity theory was underpinned by two cognitive processes: identifying in-groups and favoring in-groups over out-groups. Abrams and Hogg (1990 cited in Shipway & Jones, 2008) suggested people were then motivated to raise the standing of the in-group to which they belonged in comparison to the out-groups, assigning the in-groups a higher value than the out-groups (p. 63). Social influences and norms were purported to be the basis of social identities that influenced the self and committed individuals to a given set of behaviors (Snelgrove & Wood, 2010). As such, the current study added a runner identity construct in TRA conceptual framework to predict individuals' 5K race participation intention and behavior.

Fishbein and Ajzen (2010) cautioned that when a self-identity construct was added to TRA, it usually reflected self-reports of current behavior. In the current study, the identity of a runner contributed to a person's social capital. Therefore, a runner who was no longer "practicing" could still feel the prestige of having achieved certain running goals in the past, the

exclusivity of understanding runner's dialogue, and the status within the local running community based on their involvement and ability.

Past Participation

In the current study, the past participation variable referred to an individual participating in a local 5K race in the recent past (i.e. 2 years, 1 year, 6 months). Although TRA and TPB were found to be robust theories with thousands of applications, many scholars have added past participation to account for more of the variability in individuals' physical activity behavior (Huang et al., 2007). In a study of CSE participation motivations, Bennett and colleagues (2007) found that 74 percent of the individuals surveyed participated in more than one CSE indicating that once a person participates in a CSE, they were likely to repeat the behavior. Past behavior has been found to be a significant predictor of intention (e.g. Hagger & Chatzisarantis, 2009) and behavior (e.g. Hagger & Chatzisarantis, 2009; Kwan et al., 2009; Gerber et al., 2011). But past behavior was not completely supported in the race running literature as a positive predictor of future race participation because, in some cases, runners were not predisposed to run a race again if they have already accomplished that particular goal (Axelsen & Robinson, 2009).

McGehee and colleagues (2003) suggested that, informed by consumer behavior research, the runners who were highly involved and motivated to participate in a race formed strong brand loyalties, making them more likely to attend the same race in the future. Taylor and Shanka (2008) found that repeat participants of a CSE were more likely to be motivated by achievement beliefs, while first time participants were motivated by involvement, status, and socialization. Snelgrove and Wood (2010) found that first time participants did not have a strong connection to the event or the sport, indicating that a race participant's running identity grew as she participated in more races.

Fishbein and Ajzen (2010) advised that past behavior did not meet the criterion of causality because using the frequency of past behavior to explain future action begged the question as to why the previous behavior was performed. However, they conceded that past behavior included as an additional predictor variable has consistently been found to boost the amount of explained variance in later behavior by a significant amount (Fishbein & Ajzen, 2010).

Intention

In the current study, intention was defined as an individual's plan to participate in a 5K race in 2012. Fishbein and Ajzen's (2010) TRA affirmed that the higher the likelihood or perceived probability of performing a behavior, the more likely the behavior would be executed. This perceived probability was the essential underlying dimension that characterized intention (Fishbein & Ajzen, 2010). According to TRA, attitudinal, normative, and control elements resolved a person's intentions. In keeping with Ajzen and Fishbein's (1980) principle of compatibility, an intention was compatible with a behavior if both were measured at the same level of specificity, involving exactly the same action, target, context, and time elements.

The majority of the studies that applied TRA/TPB to exercise or physical activity found that intention was the strongest predictor of behavior (e.g. Yoo, 2006; Rhodes et al., 2010; Gerber et al., 2011). Also, many of these studies provided evidence that attitudes (e.g. Yoo, 2006), or both attitudes and PBC (e.g. Anderson & Lavallee, 2008; Hagger & Chatzisarantis, 2009; Kwan et al., 2009; Brickell et al., 2010; Gerber et al., 2011) significantly predicted physical activity intention. There were mixed results on the predictive power of norms in these applications, some studies supported a significant relationship (e.g. Anderson & Lavallee, 2008; Hagger & Chatzisarantis, 2009; Kwan et al., 2009) and others did not support a relationship at all (e.g. Yoo, 2006; Brickell et al., 2010).

Actual Behavioral Control

As previously mentioned, Fishbein and Ajzen (2010) claimed that actual behavioral control was difficult to measure and PBC was typically a proxy for this construct. However, to discover the actual behavior controls, the investigator in the current study qualitatively examined the extent to which perceived obstacles and facilitators were practical and considered potential internal and external control factors that the individual was not aware of when their intention was formed (i.e. extreme weather, injury, etc. ; Fishbein & Ajzen, 2010). The gap between what people perceive they could achieve physically and what they could actually achieve was evident in an adherence to exercise program evaluation. Jones and colleagues (2005) found that when people had high expectations and considerable confidence in their ability to maintain an exercise schedule, but had no previous evidence of a healthy lifestyle or an ability to keep an exercise regimen, they fell far short of their goals.

In the current study, a perceived obstacle that may not have been an actual obstacle was the individual elongating the distance of a 5K race. If a person thought a 5K race was 10 miles long, she may not develop the intention to participate in an event. Once she found out the race was actually much shorter and attainable, she may develop the intention to participate. A perceived facilitator that may not be an actual facilitator could be a person's health. She might think she had the ability to participate in a 5K race, but then she could have sustained an injury or developed a cold, impeding her ability to participate on race day.

Behavior

Fishbein and Ajzen (2010) stated that an action was always involved in performing a behavior. In fact, a specified behavior was usually the result of a sequence of actions, such as getting up early on a Saturday, putting sneakers on, and driving to the local park in order to participate in the 5K race event (Fishbein & Ajzen, 2010). A behavior was defined by four

elements: action, target, context, and time. For the current study, the action was participating in a 5K race, the target was a race in the York or Harrisburg area, the context was a race that was a 5K distance attached to a charitable cause, and the time was late summer and fall 2012.

Many studies that applied TRA/TPB constructs supported the significance of PBC (e.g. Anderson & Lavallee, 2008), intention (e.g.Yoo, 2006; Hagger & Chatzisarantis, 2009; Gerber et al., 2011), or both (e.g. Huang et al., 2007; Rhodes et al., 2010) in predicting physical activity behaviors. However, other studies applying TRA/TPB did not include the behavior construct, solely focusing on predicting the intention to act and assuming that intention led to behavior (e.g. Papadopoulos, 2008). The following chapter addressed the research design, data collection, and the operationalization of the variables outlined above.

CHAPTER 3

METHODOLOGY

The purpose of this chapter was to utilize quantitative and qualitative methods to discover what motivated individuals to participate in 5K races in the Harrisburg and York areas of Pennsylvania. This mixed methodology applied Fishbein and Ajzen's (2010) TRA and the additional constructs of past 5K race participation and runner identity to predict individuals' participation in future 5K races.

Structured within the pragmatic paradigm, I began my research quantitatively testing TRA and measuring the motivational factors of potential race participants using a survey and secondary race results data. Subsequently, I interviewed willing survey respondents to explore whether they identified with the running community and further investigate the running motivations, actual behavioral control and attitudes of the participants.

Research Design

This mixed-methods study began with a cross-sectional survey distributed to individuals in the Harrisburg and York areas of Pennsylvania. Through the survey, I collected the 5K race motivation antecedents, the intention to participate in a 2012 5K race, and whether the individual was willing to participate in the semi-structured interviews I conducted in the second part of this study. I used preliminary survey results to inform my semi-structured interview guide. The interviews developed common themes of individuals who were participating in 5K races. The race intentions of the survey respondents indicated which race results I needed to determine whether the intention to run a 5K race predicted the actual participation in the 5K race. This quasi-experimental design attempted to compare non-equivalent groups; the individuals who were known runners (i.e. they have participated in a 2011 5K or were members of a local running club) and the unknown runners (i.e. general population). The data was

collected in a natural setting for the survey and subsequent race results, providing ecological validity of the causal link between intentions and behavior (Losier & Vallerand, 2001).

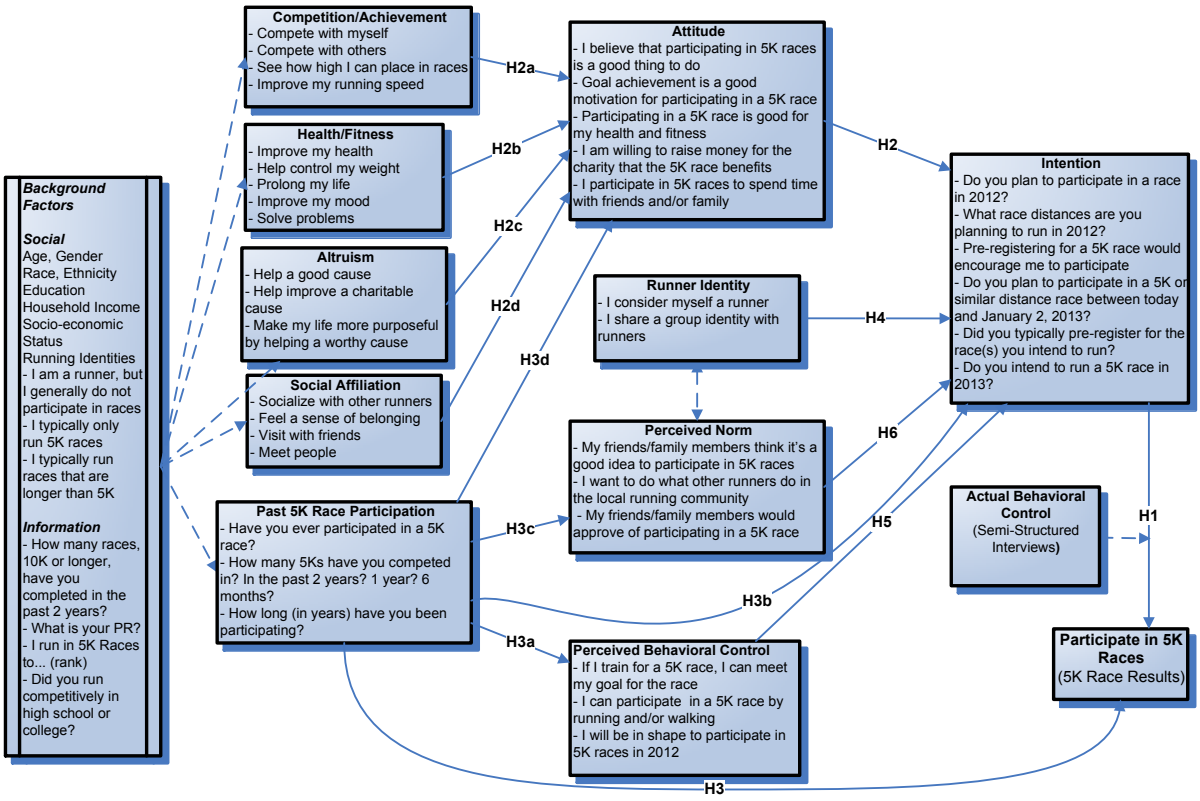

Figure 5. 5K race participation variables collected based on the theoretical framework. The questions used to measure each construct are included in the model. The hypotheses described in the following sections are also depicted here. Adapted from Predicting and Changing Behavior: The Reasoned Action Approach by Fishbein & Ajzen, 2010, p. 23.

5K Race Participation Variables

The independent variables (IVs) in this application of TRA to 5K race participation motivation in Harrisburg and York areas were: competition/achievement, health/fitness, altruism, social affiliation, past 5K race participation, runner identity, perceived norm of 5K race participation, and PBC to participate in 5K races. Attitude was the intervening variable between competition/achievement, health/fitness, altruism, social affiliation, and past 5K race participation and intention to participate in a 5K race. Perceived norm and PBC were also

intervening variables between past 5K race participation and intention to participate in a 5K race. Intention to participate in a 5K race was the intervening variable between attitude, runner identity, perceived norm, PBC, and past 5K race participation and an individual's participation in a 5K race. The dependent variables (DVs) in this model were attitude, intention to participate in a 5K race, and participation in a 5K race. The control variables were length of time participating in 5K races, number of 5K races participated in within the past 2 years down to 6 months, 5K race PR in the past two years, race distance preference, pre-registration, race competition during high school or college, age, gender, race, ethnicity, annual household income, and education level. The definitions and operationalization of the IVs, DVs, and control variables are examined in the following sections.

Independent Variables

Behavioral Beliefs

According to Fishbein's expectancy-value model, individuals have preexisting evaluations of attributes that become linked to objects in the process of belief formation. The strength of the beliefs dictates the summative process of developing the individual's overall attitude toward the object (Fishbein & Ajzen, 2010). In this study, the object was participating in a 5K race. Based on the running, exercise, and charity literature, the four behavioral belief constructs identified were: competition/achievement, health/fitness, altruism, and social affiliation.

Statements used in the survey to measure the competition, health/fitness, and social interaction constructs were derived from motivation constructs included in MOMS (Masters et al., 1993). The authors openly allowed the use of their scale on their website (see Appendix A; Masters et al., 2009). The scales of MOMS were previously tested for reliability and internal consistency with Cronbach's alpha (range from .75 to .88) and for test-retest estimates (range

from R=.71 to R=.90; Ogles & Masters, 2003; Ogles & Masters, 2000; Masters & Ogles, 1995; Havenar & Lochbaum, 2007). Factorial and construct validity of the scales were presented in earlier studies (see Masters & Ogles, 1995; Masters et al., 1993). Each motivation was measured on a 7-point Likert scale from strongly agree (7) to strongly disagree (1).

Competition/achievement. The competition/achievement construct was defined as the motivation an individual had to participate in a 5K race to win, improve their previous personal record (PR), and accomplish a race goal. In the survey, the statements were derived from the achievement motives MOMS construct. The competition/achievement motivation statements in this survey were: compete with others, compete with myself, see how high I can place, and improve my running speed (Masters et al., 2003). The competition/achievement construct was verified through factor analysis using the promax rotation (See Appendix B). The Cronbach's alpha was .79 to further support this construct's validity and reliability. The competitive/achievement motivation to participate in 5K races was expanded upon in the interviews.

Health/fitness. The health/fitness construct was defined as the motivation an individual had to participate in a 5K race in order to improve their health and well-being. Statements were derived from MOMS physical health and psychological coping constructs. The health/fitness statements were: improve my health, prolong my life, help control my weight, improve my mood and solve problems (Masters et al., 2003). The health/fitness construct was verified through factor analysis using the promax rotation (See Appendix B). The Cronbach's alpha was .72 to further support this construct's validity and reliability. The health/fitness motivation to participate in 5K races was expanded upon in the interviews.

Altruism. The altruism construct was defined as the motivation to participate in a 5K race to support a worthy charitable cause. In this study, the altruism motivation was measured

on a 7-point Likert scale using the following statements: help a good cause, make my life more purposeful by helping a worthy cause, and help improve a charitable cause. The altruism construct was verified through factor analysis using the promax rotation (See Appendix B). The Cronbach's alpha was .91 to further support this construct's validity and reliability. The altruism motivation to participate in 5K races was expanded upon in the interviews.

Social affiliation. The social affiliation construct was defined as the motivation to participate in a 5K race to make connections and strengthen bonds with family and friends. Statements were derived from MOMS social motive constructs. The social affiliation statements were: socialize with other runners, meet people, and visit with friends (Masters et al., 2003). The social affiliation construct was verified through factor analysis using the promax rotation (See Appendix B). The Cronbach's alpha was .86 to further support this construct's validity and reliability. The social affiliation motivation to participate in 5K races was expanded upon in the interviews.

Past 5K Race Participation

The past 5K race participation variable was defined as previous participation in any 5K race prior to late summer 2012. Adding past behavior to TRA prediction model was found to produce a significant increase in the amount of explained variance in the subsequent intention and behavior (Fishbein & Ajzen, 2010). The past 5K race participation was measured as a count of the 5K races an individual participated in the past two years, one year, and six months in the survey.

Runner Identity

An individual's social identity was defined as their constructing a sense of self by adjusting to situations or structure by taking on social roles. When individuals identify with a certain social group, they can be committed to a given set of behaviors (Snelgrove & Wood,

2010). In the context of TRA, adding the social identity construct was positively associated with intention to perform the behavior. Fishbein and Ajzen (2010) argued that identity was mediated by the subjective norm of an individual. In this study, individuals will identify themselves as on a 7-point Likert scale with statements such as: I consider myself a runner and I share a group identity with runners. To support their status as a runner or non-runner, they will also answer questions about their running history. The Cronbach's alpha for the Runner Identity Index was 0.85. The index was also verified through factor analysis. The three items that indicated race preference (5K, longer than 5K, and no race) loaded on three different factors so they were kept out of the runner identity index and used as race history control variables.

Perceived Norm

A perceived norm was defined as an individual's perception that salient referents think she should or should not perform a certain behavior (Fishbein & Ajzen, 2010). In this study, the perceived norm to participate in a 5K race was measured on a 7-point Likert scale using statements such as: my friends/family members think it's a good idea for me to participate in 5K races, and I want to do what other runners do in the local running community. The Cronbach's alpha for the perceived norm index was 0.62. Although the Cronbach's alpha was low, the index is theoretically consistent with Ajzen and Fishbein's TRA (2010), so I will keep it for testing the hypotheses.

Perceived Behavioral Control

PBC was defined as the extent to which people believe they were able to perform a certain behavior, using the available information, skills, opportunities, and other resources required to perform the behavior (Fishbein & Ajzen, 2010). In this study, PBC to participate in a 5K race was measured on a 7-point Likert scale using statements like: if I train for a 5K race, I can compete; I can compete in a 5K race by running and/or walking; and I will be in shape to

participate in 5K races by the end of 2012. The Cronbach's alpha for the PBC index was 0.42. Although the Cronbach's alpha was low, the index is theoretically consistent with Ajzen and Fishbein's TRA (2010), so I will keep it for testing the hypotheses.

Dependent Variables

5K Race Attitude

Attitude was defined by Fishbein and Ajzen (2010) as the "tendency to respond with some degree of favorableness or unfavorableness to a psychological object" (p.76). An individual's attitude towards participating in a 5K race was her overall evaluation of whether running a 5K was an attractive or unattractive prospect. In this study, the attitude towards participating in a 5K race was derived from the antecedent motivational beliefs of competition/achievement, health/fitness, altruism, social affiliation, and past participation in a 5K race. The strength of the four belief constructs indicated the individuals overall attitude towards participating in 5K races. Attitude towards running a 5K race was also measured on a 7-point Likert scale using the following statements: I believe that participating in 5K races is a good thing to do, I am willing to raise money for the charity that the 5K race benefits, goal achievement is a good motivation for participating in a 5K race, participating in a 5K race is good for my health and fitness, and I participate in 5K races to spend time with friends and/or family. The Cronbach's alpha for the attitude index was 0.61. Although the Cronbach's alpha was low, the index was theoretically consistent with Ajzen and Fishbein's TRA (2010), so I will keep it for testing the hypotheses.

Intention to Participate in a 5K Race

Intention was defined as an individual's plan to participate in a single behavior, engage in a behavioral category, or achieve a goal (Fishbein & Ajzen, 2010). In this study, intention to participate in 5K races was measured by a dichotomous categorical (yes/no) question about

whether the individual planned to participate in a local 5K race by January 2, 2013. If yes, there was a list of prominent 5K races for the individual to indicate her intended race(s) and a place to write in any races she planned to run that were not included. This indication of the individual's specific intention connected the intention to participate in a 5K race to the successful or unsuccessful act of participating in a 5K race.

In order to run diagnostics to ensure construct validity on the intention variable, I performed a Cramer's V correlation test on the intent to run any race in 2012 question and the intent to run a 5K race question (# 22 and #42 in the survey in Appendix C). The results (Cramer's V = .55) showed a moderately strong correlation between intent to run any race in 2012 and intent to run a 5K race specifically. Also, 79.7 percent of those who said they intended to run a race in 2012 indicated they intended to run a 5K race (#23 in Appendix C).

Participate in a 5K Race

The behavior in this study was defined as an individual participating in a 2012 5K race in the Harrisburg and York areas of Pennsylvania. The behavior of individuals who indicated they intended to participate in a particular 5K race was determined by the posted results of the 5K races after they occurred in 2012. The participation in a 5K race was a dichotomous (yes/no) categorical variable. If respondents indicated they intended to participate in more than one 5K race, participation in 50 percent or more of the 5K races they intended to run would constitute a "yes," and less than 50 percent would be a "no."

Control/Descriptive Variables

Actual Behavioral Control

Actual behavioral control was defined as the individual having the requisite skills and abilities to perform the behavior. The actual behavioral control moderated the effect of intentions on behavior. In most cases, actual behavioral control was not available to measure;

therefore the PBC was used as the proxy (Fishbein & Ajzen, 2010). In this study, however, there was an opportunity to assess the actual behavioral control qualitatively in the semi-structured interviews with individuals who intended to participate in a 5K but then did not actually participate in a selected 5K race.

Control Variables

The control variables were collected in the survey through individuals' self-report. The control variables were: length in years of participation in 5K races, number of 5K races participated in within the past six months, one year, and two years, 5K race PR in the past two years, age, gender, race, ethnicity, annual household income, and education level. The years of participation, race PR, age, and household income were treated as interval variables. The number of 5K races was a count variable. The gender, race, ethnicity, and education level were treated as categorical variables.

Research Hypotheses

The following hypotheses were derived from the literature and the application of TRA to discover the motives of people who participate in 5K races.

H1: The more positive an individual's intention to participate in a 5K race, the more likely she will participate in a 5K race.

H2: The more positive an individual's attitude is towards participating in a 5K race, the more likely she is to intend to participate.

H2a: The more positive an individual's competition/achievement behavioral beliefs, the more likely she will have a positive attitude towards participating in a 5K race.

H2b: The more positive an individual's health/fitness behavioral beliefs, the more likely she will have a positive attitude towards participating in a 5K race.

H2c: The more positive an individual's altruistic behavioral beliefs, the more likely she will have a positive attitude towards participating in a 5K race.

H2d: The more positive an individual's social affiliation behavioral beliefs, the more likely she will have a positive attitude towards participating in a 5K race.

H3: The more often a person has participated in a 5K race in the past, the more likely she will participate in a 5K race by January 2, 2013.

H3a: The more often a person has participated in a 5K race in the past, the more likely she will have a positive perception of the behavioral control/ability to participate in 5K races.

H3b: The more often a person has participated in a 5K race in the past, the more likely she will intend to participate in a 5K race.

H3c: The more often a person has participated in a 5K race in the past, the more likely she is to positively perceive the norm to participate in a 5K race.

H3d: The more often a person has participated in a 5K race in the past, the more likely she is to have a positive attitude towards participating in 5K races.

H4: The stronger a person's runner identity, the more likely she is to intend to participate in a 5K race.

H5: The more positive an individual's perception that she has the control/ability to participate in a 5K race, the more likely she is to intend to participate in a 5K race.

H6: The more positive an individual's perception that it is the norm to participate in a 5K race; the more likely she is to intend to participate in a 5K race.

Quantitative Component

Survey Development

In the development of the survey, I used behavior, opinion, experience and knowledge questions to collect the data and keep the runner interested. A ranking question was used for

the behavioral beliefs (competition/achievement, fitness/health, altruism, social affiliation) to encourage the runner to convey the ranked importance of their motivational beliefs. Also, I used a skip pattern question to shorten the survey for those who have never participated in a 5K race and did not intend to participate in a 5K race by January 2, 2013. Most of the questions were close-ended and the survey was designed so that the respondent could complete it in less than ten minutes (see Appendix C).

To ensure a quality survey was distributed and minimize measurement bias, cognitive interviews were employed with HARRC members, local race directors, and non-runners (Groves, Fowler, Couper, Lepkowski, Singer, & Tourangeau, 2004). I used Cronbach's alphas and factor analysis to test reliability and establish content validity. I used runners and non-runners for the cognitive interviews to check the language in the survey and to see if the running concepts applied to the running community and also if people unfamiliar with running culture understood the questions.

Data Sources

I received permission from the HARRC president and the President of US Road Running to survey the members of HARRC and YRRC (see Appendix D). I contacted Harrisburg and York area race directors to get lists of finishers from their 2011 races (Appendix E). Lastly, for a non-equivalent group, I acquired a general population list of 1,500 people in the Harrisburg and York areas to use in the sample.

Protection of participant identity. In order to determine the ultimate DV, participation in a 5K race in the Harrisburg and York area, I needed to retain the identity of each participant. I revealed this fact to the participants in the cover letter that accompanied the surveys and guaranteed them confidentiality, if not anonymity. Participants' identities, however, will be held in strictest confidentiality.

Sampling/Census

Known runners. The known runners were defined as the individuals who were present on the lists garnered from the running community. The population of interest in this study was the 5K race participants in 2012 in the Harrisburg and York areas. As such, the 2011 lists of local 5K race finishers and the members of the local running clubs were surveyed entirely as a census. I merged the lists of 5K race finishers, HARRC, and YRRC and eliminated the duplicates. I also eliminated the contact information of individuals under age 18 since they likely would not respond due to the complex nature of the subject and the vulnerability of the population. After compiling this list, I had 3,657 individual emails or addresses for my census.

Unknown runners. The unknown runners were defined as individuals whose running past was unknown. The sampling frame that represented the non-equivalent comparison groups for the target population was the general population list from the Harrisburg and York areas. I acquired a stratified random sample of 1,500 individuals from the general population who live within thirty minutes of at least one of the 5K races used in the survey to gather race participation intention. I selected this general population location under the assumption that individuals could not easily use distance from the race as a deterrent or excuse not to participate.

I randomly sampled from the unknown runner list to decrease the risk of sampling bias (Groves et al., 2004). Also, the list I used in the sampling frame could have been outdated and had people included who did not live in the Harrisburg and York areas (overcoverage) or excluded the new Harrisburg and York area residents (undercoverage; Groves et al., 2004). To mitigate the coverage error, I screened out the individuals who did not fit the Harrisburg and York area location criteria before I selected my sample.

Data Collection

Survey distribution. The survey was distributed to the known and unknown runner populations first through an internet survey on Qualtrics. The survey had a unique identifier for each person so I could identify them when I matched the race results to the respondents' race intentions. This unique identifier also controlled for multiple submissions by one respondent. The individuals surveyed had six weeks to respond online. Three weeks into the six-week time frame, I sent a paper survey to the runners who had not yet responded via Qualtrics. Due to budget constraints, I mailed out 2,472 paper surveys through the US Postal Service; half to the known runners and half to unknown runners. In the cover letter that accompanied the survey, I disclosed the purpose of the survey, my position in the local running community, ensured confidentiality of the respondent, and explained how the respondent was selected into the survey. I also included a self-addressed stamped envelope to encourage the recipient to respond. I used these mixed modes of contact with the known and unknown runners to decrease nonresponse error (Groves et al., 2004).

At the end of the survey, the respondents had the opportunity to self-select into the sampling frame for running motivation semi-structured interviews by providing their contact information. The respondents were sorted by county of residence and randomly selected, to stratify the sample by location and ensure driving distance did not bias the 5K race motivations.

I received 668 complete survey responses from the known and unknown runner populations. I eliminated 14 responses due to the respondents being under the age of 18. The online responses consisted of 310 from the known runner list and 30 from the unknown runner list. In total, 65 valid responses were use from the unknown runner population. This accounted for a 4.3 percent response rate. The other 579 valid responses were from the known runner population, resulting in a 15.8 percent response rate. In total, there were 26 refusals from both

populations. Out of the 644 valid responses, 164 respondents were willing to participate in the interview portion of my study. I randomly selected 40 individuals from this list to participate in the qualitative portion and interviewed 23 of those selected who were still willing to participate.

Secondary data. In order to determine the final DV (participation in a 5K race), I collected the results of each 5K race that respondents intended to run per the survey. The lists of finishers were posted on the 5K race website or available from the race director. I used the name, age, and gender variables to match the intentions to the behaviors of the 5K race participants. The potential limitation of these data was human error in entering the names, ages, and genders. To mitigate this risk, exactly matching two of the three variables was considered a successful match.

Data Analysis

Using Stata, I conducted multiple forms of statistical analyses, from descriptive statistics to ordinary least squares (OLS) multivariate regression and logistic regression, to test the hypotheses. I used multiple regression and regression criticism to create a statistically and theoretically sound model to predict the strength of individuals' attitude towards 5K races and their intentions to participate in 5K races in the Harrisburg and York areas. I used logistic regression and regression criticism to create a prediction model for the dichotomous categorical DVs intention to participate and participation in a 5K race. The following logistic regression assumptions were met: (1) the model was complete with all of the important IVs, (2) the IVs were independent, (3) collinearity and multicollinearity were minimized, and (4) outliers were minimized or eliminated (Hamilton, 1992).

I used factor analysis to verify the latent variables: competition/achievement, health/fitness, altruism, social affiliation, and runner identity (Hamilton, 1992). The factor analysis of the behavioral beliefs and identity construct ensured content validity and created

indexes to use in the multivariate regressions to answer hypotheses. I checked the Cronbach's Alpha for the items that fell in the indexes, competition/achievement (.79), health/fitness (.72), altruism (.91), social affiliation (.86), and runner identity (.85) to further ensure that the indexes were reliable and valid.

I employed univariate analysis techniques to check the distributions of the continuous variables and apply power transformations if necessary. I found that the distributions of the variables age, number of 5K races in the past two years (past participation), and the length of time participating in 5K races were not symmetrical. Since these variables are important IVs in performing my hypothesis testing, I transformed them by applying a square root to each. With the transformations in place, I could use parametric statistical models to analyze my social data with the strongest tests available to me to support my findings.

Based on the exercise motivation and running community literature (e.g. Koivula, 1999; Kilpatrick et al., 2006; Grogan et al., 2006; Trinh et al., 2008), I checked for gender effects in the hypotheses that included the 5K race beliefs (competition/achievement, health/fitness, altruism, and social affiliation). Refer to Chapter 2 in the gender effects section for a more detailed explanation of the role gender played in the exercise motivation literature. For example, Petherick and Markland (2008) found that men were more competitive than women. Also, Lewis and Sutton (2011) found that gender was the strongest predictor of exercise frequency. For these reasons, I felt it beneficial to see if gender themes emerged in my study, as motivations to participate in 5K races can vary widely and warrant analyses from many different aspects.

Qualitative Component

After a preliminary look at the quantitative portion of the data, I continued my study of 5K race participation motivations through an ethnographic lens. According to Patton (2002), the

perspective of ethnography implied that any group of people interacting together for a period of time will create a culture. Therefore, I studied the behavior patterns and beliefs of the 5K race culture to really get inside the phenomenon. This research design was appropriate to discover the motivations of 5K race runners because I am already a member of the running community so I identified with the population of interest. Also, the running culture can be exclusive, so I had access to rich data that another researcher might not have as an outsider. I used semi-structured interviews to explore the characteristics of 5K race participants and potential participants and to uncover any other common traits that I missed in the survey. I used the preliminary findings from the survey to inform the creation of the interview guide.

Researcher Position

As a seasoned runner, I am intimately familiar with the diverse motivations an individual could have for running 5K races. When I interview other runners, they may be more comfortable opening up to me since I am also a member of the running community. The running community can be exclusive in their "coded" talk. For example, a runner may say she was running "8's" the other day and I would know that she meant she was running eight-minute miles and that might actually be a slow time for her, depending on where she normally finish in races. I am also passionate about and extremely interested in running and it shows through my research methods and questions.

However, because I am extremely passionate about running, I can be biased about running motivations. I may apply my situation to the motivations of runners I interview and be critical or add meanings to their words that they did not convey. Also, as a member of the running community, another runner might not want to open up to me because I know the running code and have the capacity to judge them. To smooth out these potential problems, I did data quality checks through peer debriefings and member checks. I also explained my

position in depth to the participants and demonstrated that I valued the rich information they gave me.

Semi-Structured Interview Development

I created an interview guide to steer my questioning, discovery, and deepening of runner identities, motivational beliefs, normative beliefs, control beliefs, and 5K race intentions and behaviors (see Appendix F). Fishbein and Ajzen (2010) said that behavioral intention was the most significant predictor of behavior and you have to begin with the antecedents of intention to predict and change behavior. As such, the deeper understanding of these beliefs was vital to a nonprofit 5K race director's awareness and marketing strategy to increase participation in their races.

Data Source

The respondents who identified themselves as willing participants were included in my sampling frame for the interviews. I compiled a list of their names and contact information and randomly selected 40 participants. I set up interviews on the phone, over email and in person, depending on what worked with the person's schedule. After interviewing 23 participants, I reached theme saturation.

Data Collection & Analysis

I conducted 23 interviews with willing participants in the Harrisburg and York areas to further develop their runner identities, motivational beliefs, normative beliefs, control beliefs, and 5K race intentions and behaviors. Due to the sheer volume of data I had to analyze, I made sure my analysis was systematic, rigorous, and transparent to make the process run smoothly. I employed a content analysis to identify essential themes and meanings in the data and I documented my data reduction or the meaning I made from the data in the audit trail (see Appendix G). I used an inductive approach so I could let the themes or frameworks emerge

through the data (Patton, 2002). After these themes were determined, I compared them to the 5K race participant motivations identified quantitatively in the survey to triangulate my findings.

I began my data analysis by sorting the data I collected and making notes in the margins to identify patterns that emerge. I identified 32 patterns and gave them each their own color in an Excel spreadsheet. Then I read the transcripts again to make sure I did not miss anything that fit with the 32 patterns I identified. After I had all the valuable data in the spreadsheet, I sorted the data according to the patterns. I then looked within the themes one at a time and made sure every note fit together (internal homogeneity; Patton, 2002). After I swapped some notes and eliminated overlap (e.g. Runner's High and Energized notes were very similar), I aligned the themes. I did experience one theme emerging from the combination of other themes. Intent arose out of preparation, preregistration, training, strategizing, and commitment. I then checked external heterogeneity by ensuring that there were clear thematic boundaries (Patton, 2002). When I was satisfied that internal homogeneity and external heterogeneity were sufficiently reached, I examined the essence of the meaning of each theme itself and identified how it connected with the other themes.

Data quality assurance. According to Patton (2002), credibility and quality is established through the rigor of methods, the credibility of the researcher and the philosophical stance. To ensure that my research method was rigorous, I was systematic in developing the motivational beliefs, attitudes, perceived norms, and PBC of potential 5K race participants to their intentions, in accordance with Fishbein and Ajzen's (2010) TRA. I used an audit trail to document my reflexivity and logic. Reflexivity refers to being reflective and transparent about any pre-conceived notions or biases that I may have (Patton, 2002). After collecting the data, I immediately transcribed the interviews and kept a detailed record of all the changes I made through the audit trail and Excel spreadsheets to remain organized. I tried to ensure my

credibility as a researcher by defining my terms, demonstrating my knowledge of qualitative research, being persuasive and transparent about what I expect to find and what my motives are in this research. Using an ethnographic framework, I conducted interviews to collect data as a member and contributor to the local running community. This philosophical stance was advantageous for my study because I am already a part of the group and accepted as a member that knows the language and thought processes of local 5K runners.

Ethical Considerations

I engaged the Institutional Review Board (IRB) of Indiana University of Pennsylvania to ensure the safety, privacy, and ethical treatment of human subjects. The research participants were not compensated to take part in this study. The study was designed to include full disclosure of the purpose of the research, my position in the local running community, and guarantee confidentiality. The informed consent was included in the cover letter of the paper survey and it was the primary means of communicating the risks of the research. There were no known risks associated with this research study. Survey responses and audio files were maintained in a locked cabinet. Identifying information was changed to protect the identity of the participants while writing up the results. A copy of the findings from this study was sent to the individuals who participated for their review and recommendations.

Conclusion

In Chapter 3, I described in depth how I intended to use quantitative and qualitative methods to investigate what motivated individuals in Central Pennsylvania to participate in 5K races. Using Fishbein and Ajzen's TRA (2010) as a framework, I methodically identified and tested each construct that was relevant to my study through theory and logic. I included motivational beliefs (competition/achievement, health/fitness, altruism, and social affiliation), attitudes, norms, PBC, intention, actual behavioral control, and behavior from TRA while adding

past participation and runner identity constructs that were unearthed in my literature review. These same components framed the interview guide for the qualitative component of my study. The findings for this comprehensive mixed method study on the motivations and behaviors of 5K race participants are explained in Chapter 4.

CHAPTER 4

FINDINGS

The purpose of this chapter was to present the findings discovered during my quantitative and qualitative analyses of applying Fishbein and Ajzen's (2010) TRA to the motivations of 5K race runners in the Harrisburg and York areas of Pennsylvania. I began my analysis by evaluating the respondent population using descriptive analysis. I then tested each hypothesis systematically and rigorously by applying various univariate analysis techniques, OLS multivariate regression, logistic regression, and regression criticism methods.

Subsequently, I methodically and transparently analyzed the qualitative data gathered from the interviews using coding, audit trails, and member checks. The results were presented in this chapter as themes emerged and connected to each other, telling a story of the running community and the motivations of participants in 5K races. I also created a separate document (see Appendix H) for the race directors supporting local nonprofit organizations from the comments and recommendations of the participants, as representatives of the local running community.

Quantitative Component

Profile of Running Survey Respondents

As mentioned in Chapter 3, 579 valid responses were collected out of 3,657 from the known runner population and 65 valid responses out of 1,500 in the unknown runner sample, for an overall response rate of 12.5 percent. As 90 percent of the total valid responses were from the known runner population, I recognized that this introduced respondent bias into my data. As such, I remained mindful that my results likely were only generalizable to the known runner population in central Pennsylvania. In fact, on a Likert scale of 1 (strongly disagree) to 7 (strongly agree), the mean response to question 1 in the survey ("I consider myself a runner")

was 5.97 (SD = 1.42). In other words, the respondents in my survey generally agreed strongly that they were runners, regardless of whether they came from the known or unknown runner groups. This supported my expectation that respondent bias, particularly the motivations to participate in 5K races from the view of already established runners, was present in my findings. Nevertheless, runners who generally participate in races that are longer than 5K (m=4.35, SD=2.00) had the highest presence in the survey, followed by 5K race runners (m=3.30, SD = 2.08) and runners who do not participate in races (m = 2.42, SD = 1.64). Table 1 depicts the descriptive statistics for the profile of the survey respondents broken down by "Runner" (respondents who answered question 1 with a 5 or higher on the 7-point Likert scale) and "Non-Runner" (respondents who answered question 1 with a 4 or lower).

Table 1

Descriptive Statistics for Profile of Survey Respondents

Background Variable	n	M	SD
Runner			
Runner Identity	576	6.37*	0.73
Running Group Identity	576	5.72*	1.34
5K Race Preference	571	3.25	2.04
Prefer No Race	570	2.42	1.64
Longer than 5K Race Preference	573	4.64*	1.86
Preregister for 5K Races	548	6.00	1.24
Number of 10K+ Races	546	6.63*	10.92
Number of 5K Races	536	8.48*	8.44
Length of Time Participating in 5Ks (Yrs)	547	10.22*	9.91
5K Personal Record (Mins)	503	25.60*	5.00
Female	293	27.30†	4.83
Male	210	23.20	4.20
Age (Yrs)	544	42.57	11.77
Non-Runner			
Runner Identity	66	2.43	1.05
Running Group Identity	66	2.42	1.34
5K Race Preference	64	3.75	2.40
Prefer No Race	64	2.50	1.70
Longer than 5K Race Preference	65	1.78	1.28
Preregister for 5K Races	60	5.65	1.66
Number of 10K+ Races	39	2.10	4.26
Number of 5K Races	37	4.43	4.73
Length of Time Participating in 5Ks (Yrs)	37	4.30	4.81
5K Personal Record (Mins)	29	34.01	8.53
Female	22	36.18†	8.33
Male	7	27.20	5.02
Age (Yrs)	60	43.65	13.69

Note. The Runner population descriptive statistics are derived from those who answered "I consider myself a runner" with a 5 or higher on the Likert Scale (ranging from 1 to 7). The Non-Runner population descriptive statistics are derived from those who answered the runner identity question with a 4 or lower. The * indicates statistical significance between the Runner and Non-Runner means at $p < .05$. The † indicates statistical significance between the gender types for 5K race PRs.

To accompany the descriptive view of the respondents presented in Table 1, Table 2 depicts the descriptive frequencies for the profile of the survey respondents broken down by the same "Runner" versus "Non-Runner" designations.

Table 2

Descriptive Frequencies for Profile of Survey Respondents

Background Variable	Freq	Percent
Runner		
2012 Race	574	93.9
Race Distance		
1 Mile	74	12.9
5K	496	86.4
10K	322	56.1
Half Marathon	377	65.7
Full Marathon or Longer	185	32.2
Adventure Race	95	16.6
Past 5K Race Participation	596	97.4
Preregister for 5K Races	452	86.4
2013 5K Race Intent	547	94.8
Competed in School	181	31.4
College Education	435	75.7
Caucasian	560	96.2
Non-Hispanic	549	96.5
Household Income Over $100K	211	42.0
Non-Runner		
2012 Race	20	64.5
Race Distance		
1 Mile	1	5.0
5K	11	55.0
10K	2	10.0
Half Marathon	3	15.0
Full Marathon or Longer	2	10.0
Adventure Race	0	0.0
Past 5K Race Participation	20	64.5
Preregister for 5K Races	11	84.6
2013 5K Race Intent	12	40.0
Competed in School	4	12.9
College Education	25	80.7
Caucasian	29	93.6
Non-Hispanic	28	93.3
Household Income Over $100K	10	41.7

Note. The Runner population descriptive statistics are derived from those who answered "I consider myself a runner" with a 5 or higher on the Likert Scale (ranging from 1 to 7). The Non-Runner population descriptive statistics are derived from those who answered the runner identity question with a 4 or lower. The frequency numbers are the number of individuals answering "yes" to the item in question. The percent column is the number of positive answers divided by the total number of answered questions (excludes missing data in the denominator).

As expected due to the low response in the general population, the t tests and face values of some important characteristics were vastly different according to Tables 1 and 2. In Table 1, the runner population had a statistically significant higher mean preference for longer distance races, while the runner and non-runner populations did not differ significantly on preferences for 5Ks and not participating in races. Also, the runners participated in significantly more races longer than 10K, significantly more 5K races in the past, and for a statistically significant longer length of time than the non-runners. Further, the runners were significantly faster than the non-runners, and within each group the males were significantly faster than the females. In Table 2, only 64.5 percent of the non-runners planned to run a race in 2012, while 93.9 percent of the runners planned to run a race in 2012. Of the runners who planned to run a race, 86.4 percent planned to run a 5K race, while only 55.0 percent of the non-runners planned to run a 5K race. Also, 97.4 percent of the runners had participated in a 5K race in the past, while only 64.5 percent of the non-runners participated in a 5K race previously.

Also, the runner population clearly drove the averages of the total population outlined in this paragraph. Out of the 644 respondents, 584 (90.7%) individuals said they planned to participate in a race in 2012. The percent of respondents intending to run different race distances in 2012 were: 1 mile (11.6%), 5K (78.7%), 10K (50.3%), Half Marathon (59.0%), Full Marathon or longer (29.0%), and Adventure Race (14.8%). An overwhelming 94.3 percent of the survey respondents have participated in a 5K previously. The respondents participated in more than eight 5K races in the past two years ($m = 8.21$, $SD = 8.30$). The same respondents have been participating in 5K races for over nine years ($m = 9.82$, $SD = 9.77$). To round out the respondents' 5K race profiles, the respondents averaged a 26-minute PR ($m = 26.00$, $SD = 5.69$) in the past two years. Some other 5K race behaviors were: 72.0 percent of the respondents typically preregister for intended 5K events, 87.0 percent intend to participate in a 5K race in

2013, and 28.7 percent ran competitively in high school or college. The average survey respondent was over 42 years old (m = 42.68, SD = 11.96). Other general descriptions were: 71.4 percent had a bachelor's degree, 59.0 percent were women, 96.1 percent were Caucasian, 90.0 percent were non-Hispanic, and 41.8 percent reported household incomes of more than $100,000. These general statistics were comparable to those reported by Running USA's National Runner Survey (2012).

Tables 3 and 4 depict the frequencies of the two DVs in the survey. Table 3 shows the frequencies of the number of finished 5K races by the number of the 5K races individuals originally intended to run. Table 3 includes all of the survey respondents, including previously established runners and non-runners. The heavy clustering of the numbers on the diagonal (starting at 0,0) indicates that individuals generally do what they say they intend to do. The cluster of numbers to the left of the diagonal shows that some individuals do not finish what they intend to do 100 percent of the time.

Table 3

Frequencies of Number of Finished Races by Intended Races

	Finished Races										
	0	1	2	3	4	5	6	7	8	9	Total
Intended Races											
0	122	1	0	0	0	0	0	0	0	0	123
1	40	128	0	0	0	0	0	0	0	0	168
2	25	46	34	0	0	0	0	0	0	0	105
3	4	24	35	15	0	0	0	0	0	0	78
4	3	18	18	21	2	0	0	0	0	0	62
5	0	8	7	13	7	1	0	0	0	0	36
6	0	3	10	8	1	1	0	0	0	0	23
7	0	1	4	3	8	1	1	0	0	0	18
8	0	3	1	3	3	3	2	1	0	0	16
9	0	0	1	1	2	2	0	0	0	0	6
10	0	0	1	0	0	0	1	0	0	0	2
11	0	0	0	2	0	0	1	0	0	0	5
12	0	0	0	1	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0	1	1
Total	194	232	111	67	23	8	5	2	1	1	644

Note. The frequencies represent the number of individuals who finish the appropriate number of races across the top by the total number of races they intended to run. In my study, in order to be considered a "successful" participant, the individual must have completed at least half of the races they intended to run.

Table 4 depicts the frequencies of runners who actually participated in at least half of the races in which they intended to participate. The frequencies in Table 4 support that the majority of runners ran at least half of the 5K races they intended to run. However, 31.6 percent of the runners who intended to run a certain number of 5K races did not participate in at least half of those races. As such, it will be beneficial to analyze what factors can effectively ensure that runners complete 5K races they intend to complete.

Table 4

Frequencies of Actual Participation by Intent to Participate in a 5K

	Actual Participation		
	Yes	No	Total
Intent			
Yes	347	160	507
No	1	105	106
Total	348	265	613

Results by Hypothesis

Due to the unequal responses of runners versus non-runners depicted in Tables 1 and 2, I analyzed my hypotheses using only the runner population. Using only this group will ensure a stable population throughout all of the regression models in analyzing my hypotheses. Also, this population will contribute to the validity of generalizing my findings to the runner population in the Harrisburg and York areas of Pennsylvania.

In order to effectively and parsimoniously address each of my hypotheses, I began each evaluation with the same list of control variables (e.g. runner identity, 5K race preference, no race preference, long distance runner, transformed age, gender, gender by PR, transformed length of time running 5K races, transformed number of 5K races run in the past two years, and college education). I then used regression criticism to determine the most parsimonious model for each hypothesis while maintaining the integrity of TRA and supported relationships in the running and CSE literature. The following tables depict the most effective models achievable by my regression criticism technique.

Hypothesis 1. The first hypothesis in my study stated that the more positive an individual's intention to participate in a 5K race, the more likely she will participate in a 5K race.

I used logistic regression to determine whether my study supports this claim. Since the DV (actual participation) and the primary IV (intention) were both dichotomous (yes/no) variables, I used Cramer's V to measure the association between the nominal variables before I ran the logistic regression. The Cramer's V showed a moderate association between intention and actual participation (0.53). The results of the logistic regression are presented in Table 5.

Table 5

Participation in 5K Logistically Regressed on Intent to Participate

Logistic regression — Number of obs = 555; LR chi2(6) = 125.59; Prob > chi2 = 0.0000

Log likelihood = -308.60569 — Pseudo R2 = 0.1691

Participate|	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
intent5k |	150.8872	154.9046	4.89	0.000*	20.17377	1128.541
sqrt_age |	1.186786	.1450314	1.40	0.081	.9340096	1.507974
runnerID |	1.064982	.0522233	1.28	0.100	.9673909	1.172418
sqrt_length |	.8222442	.0669098	-2.41	0.008*	.7010269	.9644217
pr5kmale |	.975172	.0161384	-1.52	0.065	.9440487	1.007321
pr5Kfemale |	.9716681	.0133055	-2.10	0.018*	.9459366	.9980995

Note. The * indicates statistical significance at $p < .05$.

Table 5 shows the logistic regression of actual participation in a late summer or fall 2012 5K race on intent to run a 5K race, age (transformed), the runner identity index, the length of time a person has been participating in 5K races (transformed), male runners' 5K race PR and female runners' 5K race PR. The Chi-squared statistic (0.000) indicated a significant IV(s) in the model (intent, length of time, and female 5K PR). All else being equal, the statistically significantly intent variable indicated that the odds of a person who intended to run a 5K actually running a 5K were 150.89 as large than the odds for a person who did not intend to run a 5K race. All else equal, for every one square root year increase in an individual's length of time

running 5K races, the odds of actually participating in a 5K race decreased by 17.8 percent. Holding all else equal, for every one unit increase in a female's 5K race PR, the odds of actually participating in a 5K race decreased by 2.9 percent. These findings were in agreement with studies by Yoo (2006), Hagger and Chatzisarantis (2009), and Gerber et al. (2011) that found intention to be a significant predictor of behavior. As such, the first hypothesis was supported and, therefore, I will fail to reject the hypothesis.

Hypothesis 2. The second hypothesis stated that the more positive an individual's attitude was towards participating in a 5K race, the more likely she was to intend to participate in a 5K race. I used logistic regression to test this hypothesis because the DV (intent 5K) was a dichotomous categorical variable. Table 6 depicts the intent to run a 5K race logistically regressed on the variables attitude index, runner identity index, age, and female 5K PR.

Table 6

Intent to Run a 5K Logistically Regressed on Attitude Index

Logistic regression — Number of obs = 573; LR chi2(5) = 63.02; Prob > chi2 = 0.0000; Log likelihood = -185.1068; Pseudo R2 = 0.1455

intent5k	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
attitude	1.106108	.0446827	2.50	0.006*	1.021908	1.197244
runnerID	1.117612	.0630165	1.97	0.024*	1.000682	1.248205
sqrt_age	1.055894	.1639092	0.35	0.363	.7789081	1.431379
pr5kmale	1.090156	.0172892	5.44	0.000*	1.056791	1.124574
pr5Kfemale	1.075191	.0131175	5.94	0.000*	1.049786	1.101211

Note. The * indicates statistical significance at $p < .05$.

The Chi-squared statistic (0.000) signified that there was something significant in the model (attitude, runner ID, pr5kmale and pr5Kfemale). Therefore, all else being equal, for every one unit increase in the attitude index the odds of intending to participate in a 5K race increased by 10.6 percent. Likewise, for every one unit increase in the runner identity index, the odds of

intending to participate in a 5K race increased by 11.8 percent. Holding all else equal, for every one minute increase in a male's 5K race PR, his odds of intending to participate in a 5K race increased by 9.0 percent. Also holding all else equal, for every one minute increase in a female's 5K race PR, her odds of intending to participate in a 5K race increased by 7.5 percent. These findings supported Fishbein and Ajzen's TRA (2010) as well as studies by Yoo (2006), Papadopolous and colleagues (2008), Hagger and Chatzisarantis (2009), and Kwan et al. (2009) that claimed attitudes were statistically significant predictors of intention to participate in physical activities. Ultimately, these findings supported Hypothesis 2; therefore, I will not reject the hypothesis.

In this study, attitude was derived from the attitudinal beliefs that were factor analyzed to result in four different indexes: competition/achievement, health/fitness, social affiliation, and altruism. As such, I regressed the attitude index on the belief indexes to see what, if any, beliefs were statistically significant predictors of an individual's attitude towards 5K races. The results are shown in Table 7.

Table 7

Attitude Regressed on Competition/Achievement, Health/Fitness, Social, and Altruism

Source	SS	df	MS		Number of obs = 551
					F(6, 544) = 52.14
Model	2322.32456	6	387.054093		Prob > F = 0.0000
Residual	4038.19518	544	7.42315291		R-squared = 0.3651
					Adj R-squared = 0.3581
Total	6360.51974	550	11.5645813		Root MSE = 2.7245

attitude	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
competition	.3068327	.1509871	2.03	0.022*	.0778219
health	.8982994	.191832	4.68	0.000*	.1974387
social	.6125434	.1632727	3.75	0.000*	.160025
altruism	1.17357	.1517817	7.73	0.000*	.3222047
sqrt_age	-.6435148	.1321595	-4.87	0.000*	-.1713372
male	.1128652	.2533302	0.45	0.656	.0163168
_cons	32.8769	.8512063	38.62	0.000*	

Note. The * indicates statistical significance at $p < .05$.

As mentioned above, I regressed the attitude index on competition, health, social, altruism, sqrt_age, and male. The F-statistic (0.0000) indicated something significant in the model (competition, health, social, altruism, and sqrt_age). The adjusted R-squared signified that 35.81 percent of the variation in an individual's attitude towards 5K races was explained by competition/achievement, health/fitness, social affiliation, altruism, age, and male. Therefore, all else equal, for every one unit increase in the competition/achievement index, the attitude index increased by .31 units. Following this logic, for every one unit increase in the health/fitness index, the attitude index increased by .90 units. Also, all else equal, for every one unit increase in social affiliation, the attitude index increased by .61 units. For every one unit increase in the altruism index, the attitude index increased by 1.17 units. These findings also suggested the altruism index had the heaviest influence (according to the standardized coefficient of .32) on the 5K race attitudes. Finally, all else equal, for every one unit increase in

the square root of age, the 5K race attitude index decreased by .64 units. This finding suggested that as individuals get older, their attitudes towards 5K races decline. In order to check for multicollinearity in this model, I ran a variance inflation factor (VIF). When checking for multicollinearity using a VIF analysis, Hamilton (1992) suggested that values greater than 10 required further investigations. The mean VIF for the current model was 1.34, ranging from social at 1.56 to sqrt_age at 1.06. As such, multicollinearity was not suspected in the model.

Based on the literature and logic (see Gender effects in Chapter 2), interactions between gender and the belief indexes and age were also tested on this regression model. As such, competition/achievement appeared to have a stronger positive effect on attitude towards participating in 5K races for men than women. Also, altruism appeared to have a slightly stronger positive effect on attitude towards participating in 5K races for men than women. The health/fitness and social affiliation behavioral beliefs did not appear to have a significant interaction with gender. Finally, age appeared to have a slightly stronger negative effect on attitude towards participating in 5K races for men than women. See Appendix I for the full interaction models and analyses of the competition/achievement, altruism, and age interactions with gender.

Hypothesis 2a. The second hypothesis had four sub-hypotheses according to each running belief index (competition/achievement, health/fitness, altruism, and social affiliation). The first sub-hypothesis stated the more positive and individual's competition/achievement behavioral beliefs, the more likely she will have a positive attitude towards participating in 5K races. This hypothesis was tested using OLS multiple regression, the results are in Table 8.

Table 8

Competitive Attitude Regressed on Competition/Achievement Index

Source	SS	df	MS		Number of obs = 546
					F(6, 539) = 20.79
Model	118.810509	6	19.8017516		Prob > F = 0.0000
Residual	513.314033	539	.952345144		R-squared = 0.1880
					Adj R-squared = 0.1789
Total	632.124542	545	1.15986155		Root MSE = .97588

attCompetition	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
competition	.5149803	.0537429	9.58	0.000*	.412365
runnerID	-.0224612	.0212212	-1.06	0.145	-.0477148
runner5k	.0557431	.0219712	2.54	0.005*	.107456
pr5Kfemale	.0089058	.0044756	1.99	0.023*	.119764
pr5kmale	.002116	.0055604	0.38	0.352	.0224886
sqrt_age	-.1379692	.047057	-2.93	0.002*	-.1161566
_cons	6.714196	.4046851	16.59	0.000*	

Note. The * indicates statistical significance at p < .05.

The F-statistic (0.0000) indicated a significant IV(s) in the model (competition, runner5K, r5Kfemale, and sqrt_age). The adjusted R-squared meant 17.89 percent of the variation in competitive attitude was explained by competition/achievement, runner ID index, runner5K, pr5kfemale, pr5kmale, and age. All else equal, for every one unit increase in competition/achievement belief index, competitive attitude increased by .51 units. All else equal, individuals who preferred to run 5K races significantly predicted their competitive attitude – for every one unit increase in runner5K, competitive attitude increased by .06 units. Also, all else equal, for every one minute increase in a female runner's PR, competitive attitude increased by .01 units. Finally, all else equal, for every one square root year increase in age; the competitive attitude went down by .14 units. According to the standardized coefficients in this model, the competition/achievement index (.41) had the heaviest positive influence on competitive attitude, followed by female 5K race PR (.12). The positive significant relationship

between competition/achievement index and competitive attitude supported Hypothesis 2a; therefore, I did not reject the null hypothesis. This finding was also in agreement with the numerous studies that found that competition were significant motivators in sports (Koivula, 1999; Grogan et al., 2006; Kilpatrick et al., 2006) and road race participation (Gillett & Kelly, 2006).

Further regression analysis was performed on the competitive attitude the results showed that the health/fitness belief index and the altruism belief index were also significant positive predictors of competitive attitudes. However, the social affiliation factor was a significant negative predictor of competitive attitude. According to the standardized coefficients, competitive/achievement beliefs (.34) had the strongest influence on competitive attitude, followed by health/fitness beliefs (.23). As mentioned previously, an interaction between competition/achievement index and gender was found – competitive beliefs had a stronger positive effect on men's competitive attitudes than women's attitudes. See Appendix I for the full regression analysis of these findings.

Hypothesis 2b. The second sub-hypothesis for attitudes was the more positive a person's health/fitness behavioral beliefs, the more likely she will have a positive attitude towards participating in a 5K race. I used multivariate regression to test this hypothesis by regressing the health attitude on health/fitness beliefs and control variables. The results are presented in Table 9.

Table 9

Health Attitude Regressed on Health/Fitness Index

Source	SS	df	MS		Number of obs = 549
					F(4, 544) = 40.65
Model	50.0935167	4	12.5233792		Prob > F = 0.0000
Residual	167.582257	544	.30805562		R-squared = 0.2301
					Adj R-squared = 0.2245
Total	217.675774	548	.397218566		Root MSE = .55503

attHealth	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
health	.3303378	.0321607	10.27	0.000*	.3914405
sqrt_age	-.1241999	.0264914	-4.69	0.000*	-.1787152
pr5kmale	.0124013	.0031461	3.94	0.000*	.2251788
pr5Kfemale	.0107669	.002491	4.32	0.000*	.2471274
_cons	7.149511	.1809137	39.52	0.000*	

Note. The * indicates statistical significance at p < .05.

The F-statistic (0.0000) indicated something significant in the model (health, sqrt_age, pr5kmale, and pr5kfemale). The adjusted R-squared meant 22.45 percent of the variation in health attitude was explained by health/fitness index, age, male 5K race PRs and female 5K race PRs. All else equal, the health/fitness index significantly influenced health attitude – for every one unit increase in the health/fitness index, health attitude increased by .33 units. Also, all else equal, for every one square root of a year increase in age, health attitude went down by .12 units. For every one minute increase in a male's 5K PR time, his health attitude went up by .01 units and for every one minute increase in a female's 5K race PR, her health also increased by .01 units. According to the standardized coefficients for this model, the health/fitness index (.39) had the heaviest influence on health attitudes, followed by the 5K race PR for females (.25). The mean VIF for this model was 1.67, ranging from pr5kfemale at 2.31 to health at 1.03. Due to the positive relationship between health/fitness index and health attitude, these findings supported the hypothesis and I failed to reject the null hypothesis. This finding was in agreement with other studies that found healthy lifestyles, including mental health, were

significant motivators in running (Hanold, 2010), racing (Gillett & Kelly, 2006; Nettleson & Hardey, 2006), and participating in CSEs (Higgins & Lauzon, 2002; Scott & Solomon).

Further regression analysis of health attitude showed that competitive beliefs and altruistic beliefs were also significant positive effects on health attitudes. Interestingly, social affiliation beliefs had a significant negative effect on health attitudes towards participating in 5K races. Of the four belief indexes, health/fitness had the strongest positive effect on the health attitudes, followed by social affiliation with a negative effect. See Appendix I for the regression model supporting these statements.

Hypothesis 2c. The next attitude hypothesis was the more an individual's altruistic behavioral beliefs; the more likely she will have a positive attitude towards participating in 5K races. I used OLS multivariate regression to test this hypothesis by regressing altruistic attitude on the altruism index and related control variables. The results are shown in Table 10.

Table 10

Altruistic Attitude Regressed on Altruism Index

Source	SS	df	MS		Number of obs = 544
					F(5, 538) = 42.36
Model	349.268662	5	69.8537323		Prob > F = 0.0000
Residual	887.13575	538	1.64895121		R-squared = 0.2825
					Adj R-squared = 0.2758
Total	1236.40441	543	2.27698787		Root MSE = 1.2841

attAltruism	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
altruism	.8273928	.0613015	13.50	0.000*	.5114224
sqrt_age	-.2249039	.0619683	-3.63	0.000*	-.1346009
pr5kmale	.0196962	.0072898	2.70	0.004*	.1496018
pr5Kfemale	.0086243	.0057871	1.49	0.069	.0826102
College	-.0222642	.1326113	-0.17	0.434	-.0063309
_cons	6.311182	.4460479	14.15	0.000*	

Note. The * indicates statistical significance at $p < .05$.

The F-statistic (0.0000) indicated something significant in the model (altruism, sqrt_age, and pr5kmale). The adjusted R-squared signified that 27.58 percent of the variation in altruistic attitude was explained by the altruism index, age, male 5K PRs, female 5K PRs and college. The altruism index was statistically significant – all else equal, for every one unit increase in the altruism index, altruistic attitude increased by .83 units. Also all else equal, for every one square root year increase in age, altruistic attitude decreased by .22 units. All else equal, for every one minute increase in a male's 5K race PR, his altruistic attitude increases by .02 units. According to the standardized coefficients, the altruism index had the strongest effect on altruistic attitudes, followed by male 5K race PRs. The mean VIF for this model was 1.56, ranging from pr5Kfemal at 2.30 to sqrt_age at 1.03. The positive relationship between the altruism index and altruistic attitude supported the hypothesis; therefore I did not reject the null hypothesis. This finding was supported by past studies (e.g. Filo et al., 2010; Jessor et al., 2010; Snelgrove & Wood, 2010; Won et al., 2010) that held that health-enhancing behaviors, such as running 5K races, were significantly associated with giving money and time to charitable causes.

Further regression analysis performed on altruistic attitude showed that the social affiliation index actually had a statistically significant negative influence. The altruism index was the only behavioral belief index that had a statistically significant positive effect. Also, an interaction was found between the altruism index and gender. Specifically, altruistic beliefs appeared to have a slightly stronger positive effect on altruistic attitudes for men than women. See Appendix I for detailed regression analyses supporting the aforementioned statements.

Hypothesis 2d. The final sub-hypothesis for attitudes stated that the more positive a person's social affiliation behavioral beliefs, the more likely she will have a positive attitude towards participating in a 5K race. I used OLS regression to test this hypothesis; the results are shown in Table 11.

Table 11

Social Attitude Regressed on Social Affiliation Index

Source	SS	df	MS		Number of obs = 549
					F(4, 544) = 73.72
Model	473.162525	4	118.290631		P rob > F = 0.0000
Residual	872.903049	544	1.60460119		R-squared = 0.3515
					Adj R-squared = 0.3467
Total	1346.06557	548	2.45632404		Root MSE = 1.2667

attSocial	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
social	1.039928	.0612309	16.98	0.000*	.5905311
sqrt_age	-.1901749	.0609022	-3.12	0.001*	-.1098669
pr5kmale	.0139192	.0071224	1.95	0.025*	.1014656
pr5Kfemale	.0115138	.0056042	2.05	0.020*	.1063321
_cons	5.683688	.4150701	13.69	0.000*	

Note. The * indicates statistical significance at p < .05.

The F-statistic (0.0000) indicated something significant in this model (social, sqrt_age, pr5kmale, and pr5Kfemale). The adjusted R-squared signified that 34.67 percent of the variation in social attitude was explained by the social affiliation index, age, male 5K PRs and female 5K PRs. Holding all else equal, for every one unit increase in the social affiliation index, social attitude increased by 1.04 units. Also, all else equal, for every one square root year increase in age, social attitude decreased by .19 units. All else equal, for every one minute increase in a male's 5K race PR, his social attitude increased by .01 units. Likewise, for every one minute increase in a female's 5K race PR, her social attitude increased by .01 units. According to the standardized coefficients, social affiliation index has far more influence on the social attitude than the other IVs in the model. The mean VIF for this model was 1.64, ranging from pr5kmale at 2.26 to social at 1.01. The statistically significant positive relationship between the social affiliation index and social attitude supported the hypothesis, so I failed to reject the null hypothesis.

Further regression analysis performed on social attitude showed that the competition/achievement index actually had a statistically significant negative influence. The social affiliation index was the only behavioral belief index that had a statistically significant positive effect. See Appendix I for detailed regression analyses supporting these statements.

Hypothesis 3. The third hypothesis and sub-hypotheses examined how past participation affected 5K race behavior and components of motivation to run a 5K race. The first hypothesis stated that the more often an individual participated in a 5K race in the past, the more likely she will participate in a 5K race by January 2, 2013. I used OLS logistic regression to test this hypothesis. The results are shown in Table 12.

Table 12

Participation in a 5K Logistically Regressed on Past Participation

Logistic regression — Number of obs = 548; LR chi2(4) = 115.39; Prob > chi2 = 0.0000; Log likelihood = -308.90305; Pseudo R2 = 0.1574

participate	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
sqrt_past5Ks	1.177337	.0985701	1.95	0.025*	.9991615	1.387286
sqrt_length	.8800613	.0656044	-1.71	0.044*	.7604312	1.018512
sqrt_age	1.132503	.13676	1.03	0.151	.8938175	1.434926
intent5k	99.56803	101.2008	4.53	0.000*	13.58187	729.9282

Note. The * indicates statistical significance at p < .05.

I logistically regressed actual participation in a 5K race on the past participation in 5K races (transformed number of 5K races in the past 2 years), the length of time participating on 5K races in years (transformed), the individual's age (transformed), and the intent to run a 5K race in 2012. The statistically significant Chi2 (0.0000) indicated significance in the model (sqrt_past5Ks, sqrt_length, intent5k). All else equal, for every one square root unit increase in the number of 5Ks run, an individual's odds of participating in a 5K race in the fall of 2012 increased by 17.7 percent. Also, all else equal, for every one square unit increase in the length

of time in years an individual has been running 5K races, the odds of participating in a 5K race decreased by 12.0 percent. All else equal, runners who intend to participate in a 2012 5K race are 99 times more likely to actually participate in the race than those who do not intend to participate. The significant positive relationship between number of 5Ks participated in in the past and the likelihood of running a local 5K race in 2012 supported the hypothesis; therefore, I failed to reject the null hypothesis. Also, this finding was in agreement with studies that found past behavior to be a significant predictor of behavior (e.g. Hagger & Chatzisarantis, 2009; Kwan et al., 2009; Gerber et al., 2011).

Hypothesis 3a. The next past participation hypothesis stated that the more often a person has participated in a 5K race in the past, the more likely she will have a positive perception of the behavioral control/ability to participate in 5K races. I used OLS multivariate regression to test this hypothesis; results are shown in Table 13.

Table 13

Perceived Behavioral Control Regressed on Past Participation

Source	SS	df	MS		Number of obs = 539
					F(7, 531) = 8.77
Model	327.337481	7	46.7624973		Prob > F = 0.0000
Residual	2831.70426	531	5.33277639		R-squared = 0.1036
					Adj R-squared = 0.0918
Total	3159.04174	538	5.8718248		Root MSE = 2.3093

pbcIndex	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
sqrt_past5Ks	.2432679	.0830425	2.93	0.002*	.1262777
sqrt_length	-.1764209	.0838518	-2.10	0.018*	-.1035259
runnerID	.1610626	.0533702	3.02	0.002*	.1462916
runner5k	.0679152	.0523391	1.30	0.098	.0584142
sqrt_age	-.4283424	.1226578	-3.49	0.001*	-.1582454
pr5kmale	.0150969	.0149555	1.01	0.157	.0724116
pr5Kfemale	.033091	.0122615	2.70	0.004*	.1977124
_cons	17.78363	1.017266	17.48	0.000*	

Note. The * indicates statistical significance at $p < .05$.

The F-statistic (0.0000) indicated something significant in this model (sqrt_past5Ks, sqrt_length, runnerID, sqrt_age, and pr5Kfemale). The adjusted R-squared signified that 9.18 percent of the variation in PBC was explained by past participation (transformed), length of time participating in 5K races (transformed), runner identity, 5K race preference, age (transformed), male 5K race PRs and female 5K race PRs. Therefore, all else equal, for every one square root 5K race increase in past participation, PBC increased by .24 units. All else equal, for every one square root year increase in the length of time a runner has been participating in 5K races, PBC decreases by .18. Also, for every one unit increase in runner identity index, the PBC index went up by .19 units. For every one square root year increase in age, the PBC index went down by .43 units. Finally, all else equal, for every one minute increase in a female's 5K race PR, PBC index went up by .03. The mean VIF for this model was 1.80, ranging from pr5Kfemale at 3.18 to sqrt_Past5Ks at 1.10. The significant positive relationship between past 5K race behavior and PBC index provided support for the hypothesis; therefore, I failed to reject the null hypothesis. This finding was in line with the scholars who added past participation to applications of TRA to account for more of the variability in an individual's physical activity behavior (Huang et al., 2007).

Hypothesis 3b. The next past participation hypothesis stated that the more often a person has participated in a 5K race in the past, the more likely she will intend to participate in a 5K race in 2012. I used OLS logistic regression to test this hypothesis, the results are found in Table 14.

Table 14

Intent to Run a 5K Logistically Regressed on Past Participation

Logistic regression — Number of obs = 554; LR chi2(5) = 54.50; Prob > chi2 = 0.0000; Log likelihood = -166.92592; Pseudo R2 = 0.1403

intent5k	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
sqrt_Past5Ks	1.92677	.2944738	4.29	0.000*	1.428033	2.59968
pr5kmale	1.05478	.0193277	2.91	0.002*	1.01757	1.09335
pr5Kfemale	1.044751	.014947	3.06	0.001*	1.015862	1.074461
runner5k	1.12197	.0876789	1.47	0.071	.9626357	1.307676
runnerID	1.082886	.0724245	1.19	0.117	.949847	1.23456

Note. The * indicates statistical significance at p < .05.

The significant Chi2 (0.0000) indicated something significant in the model (sqrt_past5Ks, pr5kmale, and pr5Kfemale). All else equal, as the square root of the number of past 5Ks increased, the odds of an individual intending to participate in a 5K race by January 2, 2013 increased by 92.7 percent. Also, all else equal, for every one minute increase in a male's 5K race PR, his odds of intending to run a 5K race increased by 5.5 percent. Lastly, all else equal, for every one minute increase in a female's 5K race PR, her odds of intending to run a 5K race increased by 4.5 percent. The significant positive relationship between past participation in 5K races and the intent to run a 5K race supported Hypothesis 3b; therefore, I failed to reject the null hypothesis. This finding supported previous studies of the significant effect of past behavior on intention (Hagger & Chatzisarantis, 2009).

Hypothesis 3c. The third sub-hypothesis of past participation stated that the more often a person has participated in a 5K race in the past, the more likely she was to positively perceive the norm to participate in a 5K race. I used OLS multivariate regression to test this hypothesis; the results are found in Table 15.

Table 15

Norm Regressed on Past Participation

Source	SS	df	MS		Number of obs = 542
					F(6, 535) = 16.12
Model	507.235794	6	84.539299		Prob > F = 0.0000
Residual	2805.47869	535	5.2438854		R-squared = 0.1531
					Adj R-squared = 0.1436
Total	3312.71448	541	6.12331697		Root MSE = 2.29

normIndex	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
sqrt_Past5Ks	.2303242	.0822944	2.80	0.003*	.1170455
sqrt_age	-.5495948	.1121775	-4.90	0.000*	-.1992757
runnerID	.3508417	.0502956	6.98	0.000*	.3153087
runner5k	.1884373	.0517212	3.64	0.000*	.1584391
pr5kmale	.015448	.0146816	1.05	0.147	.0725206
pr5Kfemale	.0263615	.0118767	2.22	0.014*	.1542886
_cons	14.33564	.9839004	14.57	0.000*	

Note. The * indicates statistical significance at p < .05.

The F-statistic (0.0000) indicated something significant in the model (sqrt_past5Ks, sqrt_age, runnerID, runner5k, and pr5Kfemale). The adjusted R-squared signified that 14.36 percent of the variation in norm index was explained by past participation (transformed), age (transformed), male, runner identity, 5K runner preference, male 5K race PRs and female 5K PRs. All else equal, for every one square root increase in past 5K races run, the norm index increased by .23 units. Also, all else equal, for every one square root of a year increase in age, the norm index decreased by .55 units. All else equal, for every one unit increase in the runner identity index, the norm index grew by .35 units. All else equal, for every one unit increase in an individual's preference for 5K races, the norm index increased by .19 units. Finally, all else equal, for every minute increase in a female's 5K PR, norm index increased by .03 units. According to the standardized coefficients, the runner identity index had the strongest influence on the norm index, followed by sqrt_age (negative relationship). The mean VIF for this model was 1.78, ranging from pr5Kfemale at 3.05 to sqrt_age at 1.05. The significant positive

relationship between past 5K race participation and the norm index provided support for Hypothesis 3c; therefore, I failed to reject the null hypothesis. This finding was also supported by motivation literature that added past participation to account for variability in individuals' physical activity behavior (Huang et al., 2007).

Hypothesis 3d. The final past participation hypothesis stated that the more often a person has participated in a 5K race in the past, the more likely she was to have a positive attitude towards participating in 5K races. I used OLS multivariate regression to test this hypothesis; the results are shown in Table 16.

Table 16

Attitude Regressed on Past Participation

Source	SS	df	MS		Number of obs = 536
					F(7, 528) = 9.48
Model	658.985883	7	94.1408404		Prob > F = 0.0000
Residual	5242.04733	528	9.92811994		R-squared = 0.1117
					Adj R-squared = 0.0999
Total	5901.03321	535	11.0299686		Root MSE = 3.1509

attitude	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
sqrt_Past5Ks	.2330744	.1143085	2.04	0.021*	.0882589
sqrt_age	-.6538603	.1563476	-4.18	0.000*	-.1760187
College	-.7646269	.3192968	-2.39	0.009*	-.0997858
runnerID	.2798296	.069675	4.02	0.000*	.1878967
runner5k	.2721006	.0719823	3.78	0.000*	.1702359
pr5kmale	.0312487	.0202689	1.54	0.062	.1095065
pr5Kfemale	.0441257	.0164721	2.68	0.004*	.1923095
_cons	28.01813	1.412567	19.83	0.000*	

Note. The * indicates statistical significance at $p < .05$.

The F-statistic (0.0000) indicated something significant in the model (sqrt_Past5Ks, sqrt_age, College, runnerID, runner5k, and pr5Kfemale). The adjusted R-squared signified that 9.99 percent of the variation in the attitude index was explained by past participation (transformed), age (transformed), college, runner identity, 5K runner preference, male 5K race

PRs, and female 5K race PRs. All else equal, for every one square root increase in the number of 5Ks run in the past, the attitude index increased by .23 units. All else equal, for every one square root year increase in age, the attitude index went down by .65 units. All else equal, college educated runners score .76 units lower on the attitude index than runners without college educations. All else equal, for every one unit increase in the runner identity index, the attitude index grew by .28 units. All else equal, for every one unit increase in the 5K race preference indicator, the attitude index went up by .27 units. Finally, all else equal, for every one minute increase in a female's 5K race PR, the attitude index increased by .04 units. According to the standardized coefficients, female 5K race PR (.19) has the strongest influence on the attitude index, followed by runner identity index (.18). The mean VIF for this model was 1.68, ranging from pr5Kfemale at 3.06 to College at 1.03. The significant positive relationship between past 5K race participation and the attitude index supported Hypothesis 3d; therefore, I did not reject the null hypothesis. This finding also supported TRA literature that added past participation to account for more of the variability in physical activity behavior (Huang et al., 2007).

Hypothesis 4. The next hypothesis stated that the stronger a person's identity, the more likely she was to intent to participate in a 5K race. I used OLS logistic regression to test this hypothesis; results are shown in Table 17.

Table 17

Intent to Run a 5K Logistically Regressed on Runner Identity

Logistic regression				Number of obs = 606	
				LR chi2(4) = 121.83	
				Prob > chi2 = 0.0000	
Log likelihood = -215.31798				Pseudo R2 = 0.2205	
intent5k | Odds Ratio	Std. Err.	z	P>|z|	[95% Conf. Interval]	
runnerID| 1.139348	.0643532	2.31	0.011*	1.019949	1.272725
pr5kmale | 1.12331	.0162676	8.03	0.000*	1.091874	1.15565
pr5Kfemale | 1.100425	.0119966	8.78	0.000*	1.077161	1.124191
runner5k | 1.146711	.0760786	2.06	0.020*	1.006888	1.305951

Note. The * indicates statistical significance at p < .05.

The significant Chi2 statistic (0.0000) indicated something significant in the logistic regression model (runnerID, pr5Kmale, pr5Kfemale, and runner5K). All else equal, for every one unit increase in the runner identity index, the odds of intending to participate in a 5K race went up by 13.9 percent. All else equal, for every one minute increase in a male's 5K race PR, his odds of intending to participate in a 5K race went up by 12.3 percent. Also, all else equal, for every one minute increase in a female's 5K race PR, her odds of intending to participate in a 5K race went up by 10.0 percent. Finally, all else equal, for everyone one unit increase in the preference for 5K races, the odds of intending to participate in a 5K race went up by 14.6 percent. The significant positive relationship between the runner identity index and the intent to run a 5K race by January 2, 2013 supported Hypothesis 4; therefore, I failed to reject the null hypothesis. This finding also supported the running literature that held that identity played a significant role in racing (e.g. Axelson & Robinson, 2009) and participating in 5K races (e.g. Berger et al., 2007; Babiak et al., 2012).

Hypothesis 5. The next hypothesis stated that the more positive an individual's perception that she has the control/ability to participate in a 5K race, the more likely she was to

intend to participate in a 5K race by January 2, 2013. I used logistic regression to test this hypothesis. The results are in Table 18.

Table 18

Intent to Run a 5K Logistically Regressed on Perceived Behavioral Control

Logistic regression				Number of obs =	567
				LR chi2(5) =	64.88
				Prob > chi2 =	0.0000
Log likelihood = -181.43223				Pseudo R2 =	0.1517

intent5k	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
pbcIndex	1.16622	.060285	2.97	0.002*	1.053853	1.29057
sqrt_age	1.125617	.1749468	0.76	0.223	.8300309	1.526465
pr5kmale	1.099445	.0178612	5.84	0.000*	1.064989	1.135015
pr5Kfemale	1.075283	.0135067	5.78	0.000*	1.049133	1.102084
runner5k	1.129717	.0806015	1.71	0.044*	.9822893	1.299272

Note. The * indicates statistical significance at $p < .05$.

The significant Chi2 statistic (0.0000) indicated something significant in the logistic regression model (pbcIndex, pr5kmale, pr5Kfemale, and runner5K). All else equal, as the PBC Index increased by one unit, the odds of an individual intending to participate in a 2012 5K race went up by 16.6 percent. All else equal, as a male's 5K race PR increased by one minute, his odds of intending to participate in a 5K race increased by 9.9 percent. All else equal, as a female's 5K race PR increased by one minute, her odds of intending to participate in a 5K race increased by 7.5 percent. Also, all else equal, as the preference for 5K races increased by one unit, the odds of intending to participate in a 2012 5K race went up by 12.9 percent. The significant positive relationship between the PBC Index and the intent to participate in a 2012 5K race provided support for Hypothesis 5; therefore, I failed to reject the hypothesis. This finding also supported the TRA/TPB applications to exercise or physical activity that found PBC to be a

significant predictor of intention (Anderson & Lavallee, 2008; Hagger & Chatzisarantis, 2009; Kwan et al., 2009; Brickell et al., 2010; Gerber et al., 2011).

Hypothesis 6. The final hypothesis stated that the more positive a person's perception that it was the norm to participate in a 5K race; the more likely she was to intend to participate in a 5K race. I tested this hypothesis by logistically regressing intent5K on norm index, runner5K, runnernorace, runner ID, pr5kmale, and pr5Kfemale. The results are in Table 19.

Table 19

Intent to Run a 5K Logistically Regressed on Norm

Logistic regression — Number of obs = 570; LR chi2(6) = 77.37; Prob > chi2 = 0.0000; Log likelihood = -175.58852; Pseudo R2 = 0.1805

intent5k	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
normIndex	1.121145	.0631038	2.03	0.021*	1.004041	1.251906
runner5k	1.18337	.0960288	2.07	0.019*	1.009362	1.387376
runnernorace	.8292517	.0714037	-2.17	0.015*	.700475	.981703
runnerID	1.113976	.0706279	1.70	0.045*	.983803	1.261372
pr5kmale	1.097535	.0183719	5.56	0.000*	1.062111	1.134141
pr5Kfemale	1.069457	.0132283	5.43	0.000*	1.043842	1.095701

Note. The * indicates statistical significance at $p < .05$.

The significant Chi2 statistic (0.0000) indicated something significant in the logistic regression model (all IVs). All else equal, for every one unit increase in the norm index, the odds of intending to participate in a 2012 5K race went up by 12.1 percent. Holding all else equal, for every one unit increase in an individual's preference for 5K races, the odds of intending to participate in a 5K race went up by 18.3 percent. Also, all else equal, for every one unit increase in an runner's preference to run without participating in races, the odds of intending to participate in a 2012 5K race went down by 17.1 percent. All else equal, for every one unit increase in the runner identity index, the odds of intending to participate in a 2012 5K race went up by 11.4 percent. All else equal, for every one minute increase in a male's 5K race PR, his odds

of intending to participate in a 5K race increased by 9.8 percent. Finally, all else equal, for every one minute increase in a female's 5K race PR, her odds of intending to participate in a 5K race increased by 6.9 percent. The significant positive relationship between norm index and intent to run a 2012 5K race provided support for Hypothesis 6; therefore, I failed to reject the hypothesis. This finding also supported the TRA/TPB literature that indicated that the norm significantly predicted physical activity intentions (Anderson & Lavallee, 2008, Hagger & Chatzisarantis, 2009; Kwan et al., 2009).

5K race motivations. As a member of and contributor to the local running community, I was familiar with a wide spectrum of possible reasons individuals participate in 5K races. Many individuals in the running community had a difficult time identifying just one reason to run. Therefore, I used a ranking question in my survey including the 15 most often-heard 5K race running motivations and asked the participants to rank their motivations from the most important (1) to the lease important (15) reason to run. The results are presented in Table 20 (See Appendix J for more detail).

Table 20

Motivations to Run a 5K Race Ranked by Importance

Rank	Motivation Variable	n	M	SD	Male	Female
1	Improve my General Health	557	4.27	3.05	1	1
2	Improve Cardiovascular Health	556	5.67	3.61	2	3
3	Manage Stress	552	6.23	3.72	4	2
4	Lose Weight	554	6.90	4.03	6	4
5	Beat My Previous Record	554	6.94	4.20	3	6
6	Support a Specific Charity	555	7.00	4.52	7	5
7	Focus on Healthy Pastimes	554	7.25	3.97	5	8
8	Interact with Friends	550	7.69	4.02	8	9
9	Boost my Self-Esteem	552	7.88	3.92	11	7
10	Raise Funds/Awareness for a Good Cause	557	8.39	4.13	12	10
11	Compete with Others my Age/Gender	552	8.77	4.26	9	11
12	Compete with Everyone	551	9.09	4.63	10	13
13	Build Relationships	551	9.86	3.18	13	12
14	Cross Train for Other Sports	552	10.35	4.12	14	14
15	Win Awards or Medals	552	11.98	4.12	15	15

Note. The Rank in the first column is the overall rank based on the means of the population. The Male and Female columns are the ranks assigned by gender according to the means. Adapted from "The development of an instrument to measure motivation for marathon running: The motivations of marathoners scales (MOMS)," by K.S. Masters, B.M. Ogles, and J. A. Jolton, 1993, *Research Quarterly in Exercise and Sport, 64,* p. 134-143.

The most notable finding from the rankings of the motivations was that the first four top-ranked motivations were health/fitness motivations (improve my general health, improve cardiovascular health, manage stress, and lose weight). The next four motivations included all four motivation categories (competition/achievement, altruism, health/fitness, and social affiliation). The three lowest ranked motivations were build relationships, cross train for other sports, and win awards or medals. These reasons to run seemed to be associated with people who run 5K races but may not identify themselves as runners. In this study, they ran because a loved one wanted them to, or for the love of another sport, or for a tangible prize. Because the vast majority of the participants in this study did consider themselves runners (m = 5.97, SD = 1.42), the low ranking of these three reasons made intuitive and logical sense.

Ranking motivations provided more interesting observations when broken down by gender. Women ranked manage stress and lose weight higher in their motivations to run 5K races than men. Men ranked improve cardiovascular health, beat my previous record, and focus on healthy pastimes higher than women. These findings support the gender interactions found in the multiple regression analyses in Hypothesis 2 and the sub-hypotheses associated with it. They were also supported in a study that ranked exercise and sports motivations and compared genders and found gender effects with challenge, competition, social recognition, and strength for men and weight management for women (Kilpatrick & Bartholomew, 2006).

The findings from the motivation ranking question informed my development of the first half of the interview guide for the qualitative portion of my study. I wanted to explore further the meaning behind what motivated individuals to participate in 5K races and how to plan races that would bring in more participants and, in turn, raise more funds and awareness for the local nonprofit organizations. The findings from the qualitative portion of the study are presented in the following sections.

Qualitative Component

Participant Descriptions

As mentioned in Chapter 3, I randomly selected 40 respondents who indicated they were interested in participating in the qualitative interviews for my study. I sent out emails to all 40 respondents and 23 volunteered to interview with me. I interviewed 14 women and 9 men, ranging in ages from 27 to 70 years. Each respondent had participated in a 5K race and intended to participate in a future 5K race. Interestingly, five respondents (both male and female) claimed they did not identify as runners, discussed further in the Runner Identity section below. Of notable importance, I created a recommendation check list for local nonprofits and their 5K race directors to plan their races to meet the preferences of the local running

community (see Appendix H). These recommendations were created to help the race directors increase the number of participants in their events, subsequently increasing the amount of money raised for the nonprofit as well as raising awareness for the charitable cause.

Research Context

There are many different types of runners. For example, there are those who love to run on the treadmill at the gym, those that run with their dog every day after work, those who run long distances multiple times a week, and those who run in 5K races on the weekends. For this research, I focused on the motivations of 5K race runners. Since there are so many diverse reasons and distances to run, focusing on the motivations of 5K race runners was a good way to reveal motivational patterns that could be meaningful to the people who participate in that part of the running community. The findings from my research could be very useful to local non-profit organizations that conduct 5K races to raise funds because they could be used improve the non-profit's race design by focusing on the prominent motivations of runners to increase participation.

Meaning Construction of the Results

After rigorously analyzing the 23 interviews, I identified ten underlying themes, with an additional fourteen sub-themes. Not only were these themes evident throughout virtually all interviews in some way, the essence of the meanings of each of these themes connected in a definite sequence. Running history, especially where they were in their running lives, age, and gender seemed to play a role in the motivations of the individuals interviewed.

Need for a change. The prominent theme that arose first was the need for a change. Individuals indicated that they started running to make a change for their health, employment, to help friends or family members, or to achieve a new outlook on life. By far, the most prominent reason to make a change was for the individual's health. "I quit smoking and found

that as long as I ran each day; I was able to control the urge to smoke" (Interviewee D - female, 70). Without substantial equipment expenses or team fees, running was a relatively cheap and easy way to get in shape. Essentially, a person could just get up, walk out the door, and run around the block. And they could do it again the next day. In a few instances, the individuals I interviewed simply added running to their workouts as a cardiovascular benefit and inadvertently fell in love with running.

Life changes also contributed to an individual's initial motivation to start running. Some careers required people to be physically fit, so running was the natural choice for individuals I interviewed to get them to the physical level they needed to attain to be a candidate for a career. Other life changes came in the form of an illness or physical affliction affecting the runner or one of their loved ones. Some interviewees took up running as a vehicle to raise money to donate to research for a particular ailment while others used running as a way to manage the stress that arose from the feeling of helplessness when loved ones are struggling. In this way, running could help a person gain perspective and build hope.

> Running and competing in races has been something that has given me a new outlook on life. Now in my mid 60's, I feel more energetic than I did in my 40's. I had never been involved in running prior to my heart attack, so it is something that has come into my life relatively recently. It started out as a means to keep me motivated in keeping healthy and fit on a daily basis, but now it does that and so much more! As long as I am able, I plan on continuing running! (Interviewee E – female, 64)

After individuals made the change to include running in their lives, they needed to develop motivations to keep them running. The next four themes were strongly identified in the interviews as motivational beliefs to continue running and competing in races, 5K and longer. As referenced in Chapter 2, Fishbein and Ajzen (2010) indicated that salient beliefs, such

as these motivational beliefs about running, led to the development of attitudes about running. The four motivational beliefs identified were competition/achievement, health/fitness, altruism, and social affiliation.

Competition/achievement. The first motivation theme identified was competition/achievement. Competition, in its simplest form, was an individual's inherent drive to triumph over the opposition. Achievement was an individual's drive to triumph over goals set prior to the race.

Competition can be provocative because competitiveness was not always seen as a virtue, especially among women. However, many of the women I interviewed admitted to being competitive with other women in their age group or friends and family members who were running the races with them. Alternatively, men who talked about being competitive seemed to make more sweeping statements. Interviewee W (male, 33) said that his ideal race would include "finishing high in a race with a lot of competition." Notice he did not use qualifying statements such as beating other runners his age and gender. I decided to assign four sub-themes to competition because they were related to competition but different enough to warrant their own mention in the analysis. The four sub-themes were: goal achievement, strategizing, accomplishment, and self-improvement.

The four sub-themes were part of the competition/achievement theme because, at times, the opposition was you or your prior accomplishments. "I also am usually looking to achieve a certain goal: a particular time, or running with a friend" (Interviewee D – female, 70). Goal achievement referred to the goals set prior to the race, regardless of whether they were formulated months to minutes ahead of taking off from the starting line. "Think about the race mile per mile…smaller goals within the big goal of crossing the finish line" (Interviewee I –

female, 29). Goals could be developed around other runners or the most recent PR for that course or distance. "[I compete] only with myself to meet my goals" (Interviewee T – male, 29).

The second sub-theme, strategizing, referred to the race strategy each runner developed to meet their previously-established goals, whether it was crossing the finish line for a new race distance or shaving some time off of their previously-held PR. The third sub-theme, accomplishment, emerged in interviews when I asked the participants to describe how they felt during and after a race. "I feel like I accomplished something greater than me when I finish races" (Interviewee N – female, 42). The impetuses of the sentiment varied widely, but the same sense of accomplishment arose after they crossed the finish line regardless of their age, gender, or racing abilities. "I keep reminding myself of the satisfied feeling of finishing and the feelings of accomplishment at the finish line" (Interviewee Q – female, 50).

The fourth sub-theme for competition was self-improvement. Self-improvement referred to a person's ability to meet a running goal and then used that achievement to continuously improve their running abilities and personal running objectives. "I enjoy the challenge and pushing myself to new distances" (Interviewee M – male, 48). The participants in my study indicated that they liked to be challenged in their running and on the race course. "One of my biggest motivations is to be challenged. It's fun when races can challenge people of all ability levels" (Interviewee K – male, 40). As they met these challenges, they self-improved. Challenges came in the form of other familiar runners in the community, friends and family members, or the race clock. "I like to start up front with the fast people to try to keep up – it works to improve my 5K race pace. I usually improve; I'm still on the up-swing" (Interviewee P – male, 35).

Health/fitness. The second motivation I identified that keeps people running and participating in 5K races was health/fitness. "Health and fitness play a major role in me

competing in the races. My doctors and I have seen the positive results that my participation has brought" (Interviewee E – female, 64). Health referred to the physical and mental condition being positively affected by running. Health was, by far, the most consistent and positive theme throughout the reasons why people run. "Health is a big reason for me to keep running. I want to wear out, not rust out. I want to stay healthy and active for as long as I can" (Interviewee R – female, 53).

However, some participants pointed out the distinction between the motivations to run and to race. "…running x miles a week plays into health and fitness, my race motivation comes from the purpose or charity for the race" (Interviewee A – male, 61). They typically said they run for their health, from maintaining weight to cardiovascular improvement to stress relief, but they did not participate in races for their health alone. The training and preparation involved in the weeks and months before the races were motivated by health initiatives, but the actual race was motivated by something else.

> Health and fitness are big motivators for why I run. Running is my only form of exercise and I use it to maintain my weight. That said, health and fitness aren't my motivators per se for running a race. Though, if I run a race, I like to do well, so I guess that means I need to be healthy! (Interviewee J – Female, 33)

The health theme was the most referenced and emphasized pattern throughout the interviews. Everyone I interviewed made some sort of reference to how running has improved their health, either physically or mentally and most often both. Subsequently, I found it beneficial to assign sub-themes to the health theme since the data points collected that referenced were so numerous and powerful. The three sub-themes I found were: active lifestyle, longevity, and mental health.

The first health sub-theme was active lifestyle and it emerged from some participants who referenced numerous stages of their lives where they had stints of running, from childhood through high school into adulthood. Some others talked about how they could not imagine life without running and the activity feels natural and important to their daily schedules. "I've always been active… don't remember ever not running. I ran when I was a kid and ran competitively as a teenager and now as an adult" (Interviewee R – female, 53).

The second theme, longevity, followed active lifestyle logically because it came from participants saying they intended to continue to run for as long as possible. In fact, a few participants commented on the admiration they felt for those who participated in running races far past their prime. These long-time runners motivated younger and newer runners to stay active and hopefully lead a long, healthy life. "I hope I run for a very long time and it's always great to see the older generation still 'shuffling along'" (Interviewee T – male, 29).

The final health theme was mental health. This mental health pattern emerged as participants made references to stress management, self-reflection, and time to clear their minds. Interestingly, women mentioned running as a stress reliever more than men. "I have found that running provides some much-needed stress relief" (Interviewee V – female, 35). Men seemed to use running to clear their minds, solve problems, and relax. "Running is the best form of exercise, it's relaxing mentally and it clears your mind" (Interviewee S – male, 43). Regardless, most of the participants said that running was good for their body and their minds. "… It's where I get most of my self-esteem and mental health" (Interviewee D – female, 70).

Altruism. The third prominent motivation theme that kept the participants engage in running 5K races was altruism. Altruism referred to the motivation that people have to run for a charitable cause to raise funds and awareness. Some of the participants referenced specific charities that motivated them to run and raise money because it was a cause close to their

hearts, such as Autism Awareness, Susan G. Komen for the Cure, the American Red Cross, and the Leukemia and Lymphoma Society. A participant who ran with Team in Training, the running and fundraising group for the Leukemia and Lymphoma Society, said:

> I really enjoy running for a reason other than just myself, I can run as many races as I want for myself but it was so much more satisfying to help someone else while doing it. I absolutely love the friendships you make while running with a team/community... it really pushes you through those hard runs. (Interviewee O – female, 27)

Some participants said that they were motivated during the race by the individuals they were helping through fundraising for the race. Another participant who ran with Team in Training said that "cancer patients and those who have lost their battle is motivation during races" (Interviewee N – female, 42). Still another participant ran to raise money for research to help her autistic son. The selfless motivation to help loved ones inspired individuals to strive for higher levels, whether it was a new fundraising goal or a bigger and more challenging race.

The other half of the participants who were motivated by altruistic beliefs said they were motivated by running for a good cause in general. "I really like events that support local charities" (Interviewee H – male, 41). Others said that volunteering at 5K events that support worthy causes was a special way to give back to the running community while serving a good purpose.

Social affiliation. Social affiliation was the final prominent motivation that kept people running and participating in races. "Being a part of a group effort is my favorite part of racing" (Interviewee D – female, 70). Social affiliation referred to how running can connect a person to the rest of the running community by sharing a passion. Many times a person ran with friends or family both in training or fitness running and in races. "…It's a great friendly

community where people rarely judge you and they only cheer you on" (Interviewee T – male, 29).

Friends and family and other familiar runners in the community provide decent "friendly competition" and motivation to run faster or longer.

> That is a bigger part of my motivation to race, to be able to share it with family and friends, to cheer each other on and motivate one another to do something that keeps us healthy in so many ways; physically and mentally. (Interviewee V – female, 35)

The social atmosphere of the 5K race provided individuals with an enjoyable reward for a hard effort physically or a good deed by supporting a worthy cause.

> I enjoy the interaction and the camaraderie of traveling to races together, meeting new people, and socializing at the after-race party! You might say that this is my motivation to complete the race! (Interviewee Q – female, 50)

However, some people were motivated to run because it fulfilled their need for "alone time." As such, solo was the first of three health sub-themes I unearthed in the interview process. The other two sub-themes were community and accountability.

Solo referred to the runners who prefer to use running to clear their minds, solve the world's problems, and just enjoy the solitude of the open road. With the hectic schedules that most people have today, running alone seems to make more sense to get the training runs in during precious free time, often making it difficult to coordinate schedules with friends. The most common sentiment among participants was that they run alone, but sign up for races with friends and family. "Normally I run by myself. I do enter races with friends to support and compete against one another" (Interviewee H – male, 41).

The second sub-theme, community, referred to when participants talked about how running can create a community that loves to run and loves to talk about running. "Running is a

part of my life and I will talk to anyone about running any time I discover they are a runner. The running community is an all-inclusive group that does not discriminate" (Interviewee M – male, 48). There were many online forums that provided space for running communities to interact and let each other know what races they were running, review the races they ran or the running gear they were trying, among numerous other running-related topics. Runners loved to share about their triumphs and tribulations on the race course. "The running community is a big part of my life as I want to be immersed among like-minded and up-lifting people. I find this in the running community" (Interviewee Q – female, 50).

The final social sub-theme was accountability. Accountability referred to the participants' feelings of obligation or duty to show up for a scheduled run with a runner or small group of runners. Being accountable to other runners was a strong social motivation because the individual was not only letting herself down if she does not get up and get out the door to run that day.

> The social interaction of running is important. I wouldn't be out in the rain and snow on Saturday mornings if I didn't know that others were depending on me to get there for our running date. We'd go out to breakfast afterwards and talk about running and races. (Interviewee S – male, 43)

Race emotions/attitudes. After unearthing the four major underlying themes that motivated the participants to line up on the starting line of 5K races, I noticed distinct emotions and attitudes emerged during and after the race. In Fishbein and Ajzen's TRA (2010), attitudes about a behavior, such as running a 5K race, contributed significantly to the development of the intent to perform that behavior. The general attitudes about running and participating in 5K races emerged as very positive in nearly all of the qualitative interviews. Although these

emotions were revealed in a unique way by each participant, they fit into four sub-themes: encouragement, exhausted, runner's high, and self-esteem.

The first emotion that emerged was encouragement. Encouragement referred to the act of encouraging other runners, friends or acquaintances, during the race to do their best and finish the race. Encouragement could also be the feeling you get during the race when friends, family, and strangers along the race course cheer you on and offer words of inspiration to get you to the finish line. "Sometimes random people that I don't know encouraging me is pretty cool and sometimes I encourage random people, as well" (Interviewee C – female, 34).

The second sub-theme, exhausted, generally referred to how some participants felt at the finish line. To most race participants, it was good to feel slightly exhausted because then you know you gave your best effort during the race. Most participants who mentioned feeling exhausted after a race also felt good, energized, and proud. Interviewee W (male, 33) said that he felt "tired, exhausted, and proud of myself for having run the race even if I didn't finish in what I would consider to be a good time."

The third sub-theme, runner's high, emerged from post-race feelings such as energized, excited, joyful, exhausted, and amazing. In fact, most participants talked about an inexplicable feeling of awesomeness after running a race. A true "runner's high" remained controversial in scientific experiments in the running community, but the rush of endorphins on overload was definitely evident in the interviews when I asked about how people felt right after finishing a race. "Awesome! Even if you don't win or place, you are doing something that someone else isn't doing – weird kind high" (Interviewee I – female, 29).

The final emotional sub-theme was self-esteem. Self-esteem was mentioned more by women and it referred to the emotional build up an individual gets from participating in and finishing more races. Self-esteem could also be built up by completing longer and tougher race

courses or training runs. "I love the way I feel after a good run, I love the confidence it gives me, and I think I have a slight addiction to running" (Interviewee G – female, 33). The increasing self-esteem that was built from years of running and racing could contribute to the next theme that emerged, the runner's identity.

Runner's identity. When I asked the participants whether they considered themselves runners, it seemed to be a complex question to answer. Some very seasoned race participants indicated they did not consider themselves "runners," just people who run. Others said it took them a while to call themselves runners, either after participating in a certain number of events or applying a competitive effort to their training and races. But the majority of the participants said they were runners with pride. "Yes I do - and I feel that anybody out there giving [running] a shot should identify themselves that way too!!" (Interviewee G – female, 33). The next theme, running norm, was closely related to a person's identity because how a person saw themselves could be affected by the opinion and reactions of their friends and family.

Running norm. According to Fishbein and Ajzen (2010), an individual was more likely to form the intent to perform a behavior, such as run 5K races, if their friends and family would view the behavior in a positive light. As such, I included a question in the interviews to see if friends and family were providing support to the participants throughout their training and races. I found that participants were generally supported by their friends and families. Some said that important people in their lives (who were not runners) were concerned with how running might put a strain on their bodies. A few others said that friends and family who did not run could not understand why a person would "torture" themselves with such an activity. Still others said that some of their non-running friends and family think their love of running was "crazy." However, even those who did not quite understand the attractiveness of running did not discourage the interviewees from training and participating in race events. In fact, many of

the participants said, with pride, that their friends and family show up at races to cheer them on during the race and celebrate with them at the finish line. "My family comes to every race to support me – [including] some of my friends who don't run think I'm nuts for getting up so early for races - my running buddies are usually at the starting line with me!" (Interviewee G – female, 33). The next theme compliments running norm because the norm was related to whether friends and family think you *should* run a 5K race and a person's PBC speaks to whether that individual believed if they *could* finish the 5K race.

Perceived behavioral control. Fishbein and Ajzen (2010) held that people would not form the intention to do something, such as run a 5K race, unless they perceived they have the ability to do it. In this study, individuals needed to perceive that they have the ability to run and/or walk 3.1 miles to finish a 5K race. In the interviews, I asked the participants if there was ever a time where they did not believe they could finish a 5K race. Overwhelmingly, the participants agreed that they could finish a 5K race distance without any problems. However, extenuating circumstances such as injuries, illness, pregnancy, family emergencies, and extreme weather conditions (e.g. lightning, ice storms) could interfere with a person's ability to run a race they had planned on running. But, ultimately, the participants were "always ready to run" (Interviewee P – male, 35). The final theme, intent, used the culmination of all of the previous themes to determine whether a person will develop the intent to run a 5K race.

Intent to run. As previously mentioned, Ajzen and Fishbein's (2010) TRA indicated that intent was the strongest predictor of behavior. In other words, if a person intended to run a 5K race, there was a very strong possibility that they would actually run the 5K race in question. When the participants in my study talked about committing to a race, planning and preparing for a race, training for a race, and preregistering for a race, I took these as indicators that the participants had formed the intent to participate in a race. When asked about 5K races

specifically, most of the participants said they did not need to actually train for the race because the 3.1 mile distance easily fit into their normal running routine. "I run half and full marathons so - I am always training but not specifically for a 5K. It just fits in my schedule" (Interviewee N – female, 42). Some of the participants liked to plan out their race calendars for the year. No matter the motivation, whether the race benefitted their favorite charity, they liked race course, or the race had all the perks that draw out the seasoned racers, participants indicated that they had races they planned to run every year. Many others said that the lower prices for preregistering for races motivated them to commit to a race. Ultimately, preregistering for a race weeks or months in advance was the biggest indicator of intent to run that came up in the interviews. When a person made that commitment to run, only an extreme circumstance would deter them from being at the starting line on race day. "I have the rest of the year's races planned out. I always preregister – locked in and ready to go!" (Interviewee P – male, 35).

Conclusion

In Chapter 4, I presented the findings discovered in my quantitative and qualitative analyses. I applied Ajzen and Fishbein's TRA (2010) to the motivations of 5K race runners in the Harrisburg and York areas of Pennsylvania. All of the hypotheses I proposed in Chapter 3 were supported by the analyses of the data. Interesting relationships between gender and motivation emerged through regression analyses. These gender effects were also evident in the qualitative results.

The qualitative results presented in this chapter produced expected and unexpected themes. Most of the participants agreed that all of the motivational beliefs (competition/achievement, health/fitness, altruism, and social affiliation) provided some sort of motivation. Also, many of the participants preferred one motivational belief over the other three. One unexpected result was that not all of the participants identified themselves as

runners but were regular race participants. Another unexpected result was that some of the participants made the distinction that health/fitness was definitely a motivation to run, but it was not their motivation to participate in 5K races. These findings and more will be discussed in depth in Chapter 5.

CHAPTER 5

DISCUSSION

The purpose of this chapter was to discuss the significant findings that surfaced through my quantitative analyses centered on my hypotheses. I then discussed how the findings fit, or did not fit, with the TRA/TPB, running community, or CSE literature. Subsequently, I used my qualitative findings to triangulate the meaning of the data. After this discussion, I presented the policy implications that could be achieved by race directors and nonprofit organizations that used my findings for their benefit. Then I acknowledged the limitations of my cross-sectional survey. Finally, I proposed future research ideas that could be used to build better prediction models for holding successful events for worthy local charities.

Discussion of Significant Findings

What motivated individuals to participate in 5K races in Central Pennsylvania? This research question lent itself to both quantitative and qualitative analysis under the pragmatic paradigm. In my experience and throughout my study, I found that individuals who participated in 5K races enjoyed talking about why they run. Due to this enthusiastic response, I gathered rich data that provided support for both the motivation literature and the running community literature. In fact, these data provided support for every one of my hypotheses that was developed through the literature review, theory, and logic. Some findings were more prolific than others and will be discussed in detail. Therefore, the following sections highlight the significant findings, how they fit into the literature, and whether the findings were triangulated by both quantitative and qualitative methods.

TRA Applied to 5K Race Participation Motivation

Running beliefs and attitudes. The running beliefs identified through an extensive literature review of physical activity motivation and running community literature were further

verified by factor and regression analyses. These running beliefs, competition/achievement, health/fitness, altruism, and social affiliation, were positive significant predictors of attitude towards running 5K races.

Of these, altruism and health/fitness had the heaviest influence on attitude. This finding contributed to the CSE literature and fit especially well with a study by Higgins and Lauzon (2002) that explored how physical sporting events were beneficial as fundraising and awareness-raising tools for nonprofit organizations. The researchers found that CSE participants wanted to experience a feeling of local social activism and altruism through taking part in sporting events. They also found that successful events promised longer-term benefits to the participants, such as the physical and mental health benefits of exercising (Higgins & Lauzon, 2002). However, this finding was not fully triangulated by the interviews I conducted. The themes that emerged in the interview were that altruism was a significant part of the reason why people participate in 5K races, but not often the biggest reason. Many people admitted that they did not choose their 5K races based on the charities, but rather they chose the 5Ks that conveniently fit into their schedules and lives. Also, many of the participants pointed out that they did not participate in 5K races for health and fitness reasons. Most people said that they were intensely motivated by health and fitness to *run*, but they were motivated to participate in 5K races for other reasons, such as achieving a goal.

Interactions based on gender were present in the analysis of the running beliefs. Competition/achievement and altruism beliefs appeared to have a stronger positive effect on attitudes for men than women. This finding partially supported a study by Kilpatrick and Bartholomew (2006) that discerned men's and women's motives for sports participation and exercise. Challenge, competition, social recognition, and strength were rated significantly higher by men than women as reasons to participate in sports (Kilpatrick & Bartholomew, 2006).

Competition was also found to be rated higher by men than women in a study of sports participation using the Bem Sex Role Inventory Scale to differentiate gender-typing (Koivula, 1999). In my study's ranking question, men did rank competitive reasons to run 5K races higher than women, but both men and women had four health/fitness reasons in their top five ranked motivations. Interestingly, the fifth reason in the top five for men was a competitive motivation at number three and the fifth reason in the top five reasons for women was an altruistic reason at number five. Triangulation with the qualitative portion of my study was only partially successful. The prevailing theme that men were more motivated by competition than women held true. However, both men and women were equally passionate about altruistic reasons to run in the interviews, failing to support the gender interactions I found.

Interestingly, competition/achievement had a significant positive relationship with the PRs of females in this study. At first, this did not make intuitive sense because a runner should become more competitive as their PR decreases or the faster they finish 5K races. However, as found in the gender effects literature, women in this study seemed to be more influenced by achieving goals (also part of the competition/achievement construct) than competing with other runners in the 5K race.

In my study, age had a significant negative relationship with 5K race attitudes. In other words, as individuals get older, they had a more negative attitude about running 5K races. This finding made intuitive sense when used in the context of competitive attitudes towards running 5K races. This finding supported the qualitative study by Abbas (2004) where she found age inequalities in the running community, suggesting that as runners get older they were discriminated against by the younger, faster, and stronger runners. However, this finding did not make intuitive sense when in the context of health/fitness, altruism, and social affiliation motivations. In fact, most of the participants in my interviews claimed they wanted to run for as

long as possible and that they were motivated by the older runners they saw in the races. However, I did not ask them specifically about participating in 5K races as they got older. More likely, the attitudes in general of people running 5K races declined as they get older as a defense mechanism. The participants in the study may have lowered their attitudes and expectations about participating in 5K races as they got older just in case they did not have the ability to participate in the future due to injury or illness. If such an event would occur, they could claim they did not want to run the race anyway.

Another important age-related finding was that increasing age appeared to have a stronger negative effect on the predicted attitude of running 5K races for men than women. In other words, men's attitudes declined at a faster rate as they got older than women's attitudes. This could be due to men recognizing the abilities they were losing with age. Young, lean men have the ideal runner body, according to a study by Abbas (2004). As such, men who were capable of winning the entire race at one time may have developed increasingly negative attitudes about competing in races against younger men whom they could no longer beat. Due to gender effects and body types, women typically were never competitive for the top spot in a race, so they may not develop negative attitudes about competing in a race as quickly as men.

In this study, 5K race attitude was a significant positive predictor of intention. This finding supported Fishbein and Ajzen's (2010) TRA and fit with the extensive literature validating the theory. In the qualitative interviews, the participants were enthusiastic about running and participating in 5K races. Attitudes were positive, helpful to nonprofit race directors, and passionate for more opportunities to participate in 5K races.

Perceived norm. In my study, the perceived norm was a significant positive predictor of intention to run a 5K race in late summer or fall 2012. This finding supported Fishbein and Ajzen's (2010) TRA and much of the literature applying this robust theory. However, norm was

not as well-supported by TRA/TPB applications as the other antecedents of intention, attitudes and PBC. The support and encouragement of friends and family in participating in 5K races was not unusual since there were so many reasons to support this behavior, starting with improving the health of a loved one and supporting a good cause. This sentiment was triangulated in the interviews with many of the participants claiming that knowing their friends and family would be cheering for them at the finish line motivated them to keep going during the race. Also, participating in 5K races as the intended behavior in this study gave the unique opportunity to friends and family to provide support during the behavior as spectators of the 5K event. Another notable triangulation of the importance of perceived norm in the qualitative findings was that friends and family who also ran provided the participant a sense of accountability and commitment to seeing their 5K race intentions through.

A negative relationship between age and norm was found in this study. Also, an interaction between age and gender also existed, indicating that increasing age appeared to have a stronger negative effect on the 5K running norms for men than women. These findings meant that the participants in this study perceived that friends and family were less in favor of their 5K race participation as they get older. The act of running can be harsh on an individual's body, so friends and family, especially those who do not run, could become less enthusiastic about their loved ones participating in a 5K race as they get older out of concern for their health. This was partially triangulated in the interviews. Some participants admitted that their friends and family who do not fully understand the benefits of running could be against it if they thought it could be harmful. However, most of the older interviewees said that their friends and family who were initially concerned saw how participating in 5K races and running improved the participant's health and well-being and changed their minds.

A statistically significant positive relationship existed between a female's PR and her perceived norm. In other words, as a woman's PR increased, the perception that her friends and family were supportive of their participation in 5K races went up. This finding made intuitive sense because people with higher PRs were typically newer to 5K race participation so their friends and family may be excited to see them doing something that was good for their health and their community. This finding was triangulated through the interviews because some of the admittedly slower participants talked about the "back of the pack" culture and how encouraging their friends, family, and running community in general were of their participation in 5K races.

Perceived behavioral control. PBC was a significant positive predictor of intention to participate in 5K races. This finding fit into the extensive TRA/TPB literature that supported the application of this theory to predict intention and behaviors. The positive relationship between PBC and intent was triangulated in the interviews because most of the participants could not think of a reason why they would not finish a 5K race until I prompted them by asking about injuries or illness. This was not surprising because the participants in the interviews had all participated in a 5K race in the past, so they knew what it took to cross the finish line and felt that they were capable of producing that effort at any time. Also, for people who ran regularly, a 5K race was a rather attainable goal. PBC might be a more tenuous concept when talking about a half marathon or marathon distance.

I found that age had a significant negative relationship with PBC. This finding made intuitive sense because as individuals got older, they might perceive they were more prone to injury and illness, thus making them less sure about their ability to finish a 5K race. This finding was triangulated in the interviews because the older interviewees were more cognizant of

situations (e.g. injury, illness, family emergencies, extreme weather conditions) where they might not be able to participate in 5K races.

Past participation in 5K races. An individual's past participation in 5K races was found to be a positive statistically significant predictor of 5K race participation, 5K race intention, PBC, norm, and 5K race attitude. This fit with the motivation literature that advocated for past behavior as a predictor of future behavior. Most of the running literature also supported the inclusion of previous race participation behavior as an antecedent. Fishbein and Ajzen (2010) suggested that using past behavior to predict future behavior was tautological because it did not reveal what actually motivated an individual to begin the behavior. However, with my study, past behavior was a valuable contribution to the model due to the characteristics of the population on which I was focusing. Very few of the people in my running community sample have never participated in a 5K race because the events were evident and numerous in this area.

Furthermore, these findings made intuitive sense because an individual who has already had a good experience at a 5K race would be more likely to have a positive attitude towards 5Ks, a supportive network of friends and family at the events, and an opinion that they had the capability to complete a 5K race. Also, past participation provided an individual with knowledge of what they were getting into, so they were more likely to intend to participate in a 5K race and follow through with their intention. This finding was triangulated in the interviews by the interviewees giving great advice to the local nonprofit's race directors on how to design a 5K event that will draw in bigger crowds of participants. The participants used their favorite 5K race experiences to inform their opinions and made recommendations about the race course design, race amenities, and race planning.

Runner identity. A person's runner identity was found to be a significant positive predictor of 5K race PBC, 5K race norm, and 5K race attitude, and intention to participate in a 5K race. These findings made intuitive sense because when a person identified as a runner, they were likely to have positive attitudes towards 5K races, a supportive network of friends and family, and a perception that they can run a 5K race. Also, if a person was a runner, they were more likely to intend to engage in running activities, such as participating in a 5K race. For the most part, this notion was triangulated in the interviews because the majority of the participants identified as runners and verified the significance of positive attitudes, norms, and PBC to predict intention to run a 5K race. Also, a few of the participants said that the runner identity seemed to have an element of competition in the meaning for them, so they did not consider themselves runners until they started competing in races and training to run faster.

As an extension of the runner identity construct, I included three descriptive items that further explored the runner's race preferences, whether they preferred to run 5K races, run races that were longer than 5K, or not to run races at all. As such, I found that 5K race preference was a significant predictor of competitive/achievement attitude, norm, and attitude. These findings make intuitive sense because most runners who preferred to run 5K races did so, at least in some part, for competition or goal achievement. Further, this study was focused on the motivational components of participating in 5K races based on Fishbein and Ajzen's (2010) TRA, therefore, the significant positive relationship 5K race preference had with norm and attitude also made intuitive sense while supporting the validity of the constructs. Another finding that supported the content validity of the survey instrument was that runners who preferred not to race had a significant negative relationship with the intention to run a 5K race. In other words, those who identified as runners but preferred not race, did not develop the intention to race. These findings were verified in part by the qualitative portion of my study

because, though I did not specifically ask the participants preference, I did ask about their race experiences and the participants had plenty of positive experiences to share with me. These positive experiences strengthened their positive attitudes, norms, and intentions.

I added runner identity as a supplementary predictive construct in my application of Fishbein and Ajzen's (2010) TRA because of the prevalence of identity in the running community literature. Fishbein and Azjen (2010) claimed that identity was important but it was included in their perceived norm variable. I found, through my own experience and the interviews, that the support and encouragement of friends and family and actually identifying as a runner were distinctly different concepts. In fact, there were a few participants in the qualitative part of the study who said they did not identify themselves as runners, but these same participants had tremendous support and approval of participating in 5K races from friends and family. Through the qualitative interviews and the identity literature, I found that a runner's identity was a personal and intimate choice that only the individual could make, with or without the support of their social networks.

Actual behavioral control. Actual behavioral control was a new construct in Fishbein and Ajzen's (2010) latest version of TRA to account for the barriers between forming an intention to perform a behavior and actually performing the behavior. Since my intention construct was collected through a survey and my behavior construct was collected through 5K race results lists, I had an opportunity to explore this construct through the interviews and participating in some of the races that were on the list of intended 5Ks. My first experience with the actual behavioral control construct was when a severe storm occurred during one of the races in the survey. Due to this extreme weather impediment, there were individuals in my survey population who indicated they intended to run this race, but did not show up on race night. In a few cases, the survey participants who intended to run the race actually

preregistered for the race, but decided against running in the storm. I considered this event an example of the weather acting as an unexpected obstacle that caused individuals not to perform the behavior. This finding supported the inclusion of the actual behavioral control construct.

A more anecdotal event was when an interview participant told me that he had recently experienced an injury to his ankle and was trying to rest to get back in shape for a late fall marathon. After my interview with the participant, I notice that he did not participate in the 5K races that he had intended to run four weeks earlier. The injury had occurred after he filled out my survey but before he interviewed with me, so I considered this as more evidence that actual behavioral control was a valid construct that needed to be measured with more consistency to build a better prediction model based on Fishbein and Ajzen's (2010) TRA.

Intention to participate in 5K races. The intention to participate in 5K races variable was significantly positively predicted in part by 5K race attitudes, norm, PBC, 5K past participation, and runner identity. The findings related to Fishbein and Ajzen's (2010) TRA were slightly surprising when compared to the TRA/TPB application literature because the support for perceived norm as a significant predictor of intention was intermittent, at best. Most of the TRA/TPB applications found that PBC and attitudes were far stronger predictors of intention than norm. However, using participation in 5K races as the behavior in question provided this study with a unique scenario where friends and family could take part in the behavior as spectators. PBC as a significant predictor of intention was not surprising at all because no one was going to accidentally run a 5K race; you had to perceive you could finish the 3.1 miles by walking and/or running before you form an intention to participate in a 5K race. The finding that 5K race attitude was a significant predictor of intention was also not surprising because attitudes typically played a big role in why people behave the way they do.

The finding that runner identity was a significant predictor of intention than the TRA constructs was expected based on the running community literature. A study by Axelsen and Robinson (2009) found that participating in races helped individuals develop their runner identities and become more dedicated to the events. Shipway and Jones (2008) held that runners strengthened their runner identity by building their knowledge and credibility within the community through finishing targeted races and being visible in the community. Snelgrove and Wood (2010) found that identities were built by participating in running events over time. These identity findings were triangulated in the qualitative interviews because individuals who identified themselves as runners also indicated that they intended to keep running and racing for a long time. As Interviewee R (female, 53) claimed," I want to wear out, not rust out."

Furthermore, the finding that past participation was a significant predictor of intention to participate in a 5K race was also expected. As mentioned above, the running community literature showed that running identities were built through repeated participation in running events. The motivation literature added past participation as a predictive component because people tended to revert back to behaviors with which they were comfortable. So, the more often a person participated in a 5K race, the more comfortable they were with the event and the more likely they would be to run more 5K races. This finding was also triangulated in the interviews because of the participants knew what they liked and did not like about 5K events in which they participated. Past participation also prompted loyalty to certain 5K events for some of the participants due to their good experiences and future intentions.

Actual participation in 5K races. Past participation and intention to run a 5K race were significant positive predictors of actual participation in 5K events. Intention to run a 5K race was a substantive significant predictor of actual participation, supporting Fishbein and Ajzen's (2010) TRA and the extensive literature applying TRA/TPB to a multitude of physical activity situations.

In the context of 5K race participation, people who intended to participate in a future 5K race had the benefit of preregistering in the event to provide an added incentive to get to the starting line on race day. Preregistration in a race guaranteed certain items for the event (e.g. t-shirt, gym bag) and sometimes came at a lower price. These incentives were enough for the participants in the interviews to advocate for preregistration and the benefit of planning out their race calendars months in advance.

Past participation in 5K race events as a significant predictor of actual participation in 5K race events was also expected according to the running community literature and intuitive sense. The more often an individual participated in a 5K race in the past, the more likely they would actually participate in the next 5K race. Anxiety and other barriers to entry declined the more familiar individuals were with the effort required to finish a 5K race. This was triangulated in the interviews by people thinking little of training or preparing for 5K races because, from their past experiences, they simply knew they could and would participate in certain 5K races.

Implications

As stated numerous times throughout the research process, the greatest policy implication for this study was that local race directors and their charities could benefit from the analysis. The race directors could find value in knowing what motivated the participants who run their 5K races and what they can do to make the race more attractive to the local running community in the future. The recommendations in Appendix H have been offered to local race directors and will be shared upon request. They will also be available on a local running website and through the Harrisburg Area Road Runners Club (HARRC) newsletter. The charities will benefit from these more attractive events by raising awareness and funds for a good cause.

This study also was a valuable addition to the TRA/TPB application literature, the running community literature, and the CSE literature. The findings produced through statistical

analysis supported the robustness of TRA and the strength of the predictive power within the motivation theory. According to Fishbein and Ajzen (2010), thousands of different studies successfully used TRA to predict the behavior of individuals in a variety of different situations and this study provided one more piece of evidence for the solid motivation theory. The running community literature that advocated for the inclusion of runner identities and past participation to explain a person's race running behavior was significantly supported through quantitative and qualitative methods in this study. Finally, the discovery that altruism had the strongest effect on attitudes towards participating in 5K races supported the CSE literature. Most CSE literature emphasized that individuals were uniquely motivated by altruism in combination with other reasons to participate in charity events. In other words, altruistic motivations served a dual purpose where individuals can help others while helping themselves. Despite the favorable support, strength, and triangulation of the findings and beneficial policy implications of this study, limitations existed in conducting the study.

Limitations

A number of limitations existed throughout this research process, primarily through the data collection process and the quality of the data collected. First, the response rate was low, despite the dual collection methods. The general population response was extremely low for both the email and paper surveys. After examining the list of emails, I suspected that the list was bad and/or old because there were two familiar names on the list and their addresses were at least ten years old. Also, due to the subject matter of the survey, any amount of incentive was unlikely to draw in people who were not interested in running or talking about 5K charitable events. Secondly, since the collection was a cross-sectional survey, the findings were limited in how much predictive power the motivational components really had. The time order was

evident between the actual 5K race behavior and the rest of the components in the model, but every other variable was collected on the same survey instrument.

The other limitations were related to the data analysis. First, the Cronbach's alphas for the PBC, norm, and attitude indexes were low. I decided to use them in the data analysis anyway because they were theoretically consistent with Fishbein and Ajzen's (2010) TRA constructs. In fact, I used a fitness-related questionnaire that Fishbein and Ajzen (2010) included in their latest book to figure out how to develop the items in the constructs. When I saw the low Cronbach's alpha, I suspected the language I used could have been unfavorable to the survey population since, as previously mentioned, runners can be sensitive about the words they use to talk about running (e.g. "jogging" is bad). However, I did send my survey to over 200 local race directors for review prior to sending it out to my population, so I did not expect a wording problem. In sum, the indexes apparently did not work for this study and should be reevaluated for similar studies in the future.

Secondly, some statistically significant relationships emerged that were questionable. The negative relationship between age and attitude did not make intuitive sense at first. I presented some explanations that may hold true with further analysis, but the relationship still seemed suspect. As such, I wondered if the relationship was substantively significant. There were low coefficients associated with the negative relationship between age and attitudes and 5K race beliefs, indicating that the odd relationship might have been a result of questionable data.

Finally, many of the adjusted R^2 percentages were low, indicating that there was something else going on in the data, such as a variable that I missed. Even though the IVs that I included in this study did have statistically significant relationships with the targeted DVs, the fact remained that few of the regression models I put together after applying regression

criticism and logic even reached explaining 40 percent of the variation in the DV in question. All of these limitations can be remedied in the future based on the experiences I had in this study and further research to explore some of the new constructs that came out in the qualitative research, such as the need for a change as a motivational catalyst.

Future Research

To enhance the strength of the application of Fishbein and Ajzen's (2010) TRA in predicting the 5K race participation behaviors of those in the running community in the future, a few improvements could be applied to the research design. First, a more substantial comparison group should be attained through an enhanced collection method. The general population did not respond well to a survey about running 5K races through online or paper surveys. A more reliable general population list would be valuable, along with including member lists from gyms and sporting goods stores to get more non-running, but active, people in the population. Second, a longitudinal study would be beneficial to create more reliable causal models when applying TRA to predict participation in 5K races. In fact, a longitudinal survey that follows a cohort could measure the 5K charity events that have a loyal following and also look at the 5K races where participation is expanding and figure out what they are doing differently to boost registration numbers. Finally, an application of Fishbein and Ajzen's (2010) TRA could be more broadly applied to all charitable sporting events (CSEs) to measure how much stronger altruism is as a motivational belief than health/fitness, competition/achievement, and social affiliation, if at all. Fishbein and Ajzen's (2010) TRA could also be applied to all charitable road race distances to see if the motivations change at different levels of dedication and competition.

Summary

In Chapter 5, I discussed the significant findings that arose through my quantitative analyses and applied them to the appropriate parts of my conceptual model. Many of the stronger findings fit well with TRA/TPB, running community, or CSE literature and were generally triangulated through the themes that emerged from my qualitative analyses. Then I discussed the policy implications that could be summarized by saying the more attractive the event a race director plans for her nonprofit organization, the more funds and awareness she can raise for a good cause. The limitations of the study were based on a low general population response rate and questionable data, indicating that further research or a longitudinal study would be beneficial in validating or challenging the current findings. Lastly, this study was a great step in the right direction for local nonprofits in the Harrisburg and York areas of Pennsylvania. As nonprofit organizations become more dependent on individual donations to survive, 5K charitable events have become more prominent and numerous. Using the findings of this study, the race directors can improve the design of their events to increase participation and, in turn, increase awareness and funds for their organizations. The running community also benefits from this study because the local race directors will have the ability to give them more of the races they love to run.

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Appendix A
Motivations of Marathoners Scale

The scale, a description, and the scoring are all listed below. You are welcome to use the instrument for research, etc. The citation is:

Masters, K. S., Ogles, B. M., & Jolton, J. A. (1993). The development of an instrument to measure motivation for marathon running: The motivations of marathoners scales (MOMS). *Research Quarterly in Exercise and Sport, 64*, 134-143.

Please rate each of the following items according to the scale below in terms of how important it is as a reason for why you run. A score of 1 would indicate that the item is "not a reason" for running; a score of 7 indicates that the item is a "very important reason" for running; and scores in-between represent relative degrees of each reason.

Not a Reason						A Most Important Reason
1	2	3	4	5	6	7

1. _____ To help control my weight
2. _____ To compete with others
3. _____ To earn respect of peers
4. _____ To reduce my weight.
5. _____ To improve my running speed.
6. _____ To earn the respect of people in general.
7. _____ To socialize with other runners.
8. _____ To improve my health.
9. _____ To compete with myself.
10. _____ To become less anxious.
11. _____ To improve my self-esteem.
12. _____ To have something in common with other people.
13. _____ To add a sense of meaning to life.
14. _____ To prolong my life.
15. _____ To become less depressed.
16. _____ To meet people.
17. _____ To become more physically fit.
18. _____ To distract myself from daily worries.
19. _____ To make my family or friends proud of me.
20. _____ To make my life more purposeful.
21. _____ To look leaner.
22. _____ To try to run faster.
23. _____ To feel more confident about myself.
24. _____ To participate with my family or friends.
25. _____ To make myself feel whole.
26. _____ To reduce my chance of having a heart attack.
27. _____ To make my life more complete

28. _____ To improve my mood.
29. _____ To improve my sense of self-worth.
30. _____ To share a group identity with other runners.
31. _____ It is a positive emotional experience.
32. _____ To feel proud of myself.
33. _____ To visit with friends.
34. _____ To feel a sense of achievement.
35. _____ To push myself beyond my current limits.
36. _____ To have time alone to sort things out.
37. _____ To stay in physical condition.
38. _____ To concentrate on my thoughts.
39. _____ To solve problems.
40. _____ To see how high I can place in races.
41. _____ To feel a sense of belonging in nature.
42. _____ To stay physically attractive.
43. _____ To get a faster time than my friends.
44. _____ To prevent illness.
45. _____ People look up to me.
46. _____ To see if I can beat a certain time.
47. _____ To blow off steam.
48. _____ Brings me recognition.
49. _____ To have time alone with the world.
50. _____ To get away from it all.
51. _____ To make my body perform better than before.
52. _____ To beat someone I've never beaten before.
53. _____ To feel mentally in control of my body.
54. _____ To get compliments from others.
55. _____ To feel at peace with the world.
56. _____ To feel like a winner.

Appendix B
Factor Analysis Confirming Behavioral Belief Indexes

Factor analysis/correlation	Number of obs = 618
Method: principal factors	Retained factors = 4
Rotation: oblique promax (Kaiser off)	Number of params = 58

Factor	Variance	Proportion	Rotated factors are correlated
Factor1	3.74332	0.4449	
Factor2	3.43524	0.4083	
Factor3	3.39959	0.4041	
Factor4	2.56632	0.3050	

LR test: independent vs. saturated: chi2(120) = 4943.24 Prob>chi2 = 0.0000

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
competition1	-0.1406	-0.0394	0.3987	0.4522	0.5894
competition2	0.1808	0.0010	-0.1020	0.7449	0.3885
competition3	0.0360	0.0466	-0.1111	0.7954	0.3899
competition4	-0.0553	-0.0164	0.2638	0.6153	0.4727
health1	-0.1128	-0.0416	0.7176	0.0730	0.5258
health2	-0.0081	0.0492	0.5155	-0.0432	0.7284
health3	0.0532	0.0694	0.5672	0.0054	0.6043
health4	0.0741	0.0649	0.6562	-0.1294	0.5292
health5	0.2873	-0.0616	0.4830	-0.1022	0.6428
social1	0.7767	-0.0735	-0.0150	0.0694	0.4172
social2	0.5544	0.1150	0.1427	0.0597	0.4848
social3	0.8065	0.0014	-0.0396	0.0338	0.3576
social4	0.8331	0.0118	-0.0105	0.0015	0.3036
altruism1	-0.0725	0.9231	0.0281	0.0202	0.1762
altruism2	-0.0341	0.9477	-0.0233	0.0097	0.1453
altruism3	0.1828	0.7184	0.0114	-0.0091	0.3238

Factor rotation matrix

	Factor1	Factor2	Factor3	Factor4
Factor1	0.8115	0.7441	0.7607	0.5543
Factor2	-0.0423	-0.5412	0.1281	0.7155
Factor3	-0.5647	0.2088	0.4340	0.0874
Factor4	0.1443	-0.3315	0.4654	-0.4162

Appendix C
Informed Consent & 5K Race Motivation Survey

You are **invited to participate** in this research study about your motivation to participate in 5K races! The following information is provided in order to help you to make an informed decision whether or not to participate. If you have any questions **please do not hesitate to ask**. You are eligible to participate because you are over the age of 18 and reside in the Harrisburg or York areas of Pennsylvania and/or you have participated in a local running club or race.

The purpose of this study is to gain an understanding of the motivations of 5K race participants in the Harrisburg and York areas of Pennsylvania. More importantly, the findings from this study will be available to race directors at Central Pennsylvania nonprofit organizations as a guide to plan a successful 5K race fundraiser for a worthy cause and/or to increase participation in their current 5K race.

Your participation will include completing a survey online or on paper that will take approximately 10 minutes. In the survey, I will be asking you about your intentions to participate in 5K races in the upcoming months. Once these intended 5K races occur, I will retrieve the finishers list from the race director to record your finisher status. Also, you will be given the opportunity to volunteer for the second part of this study, one-on-one interviews expanding on 5K race motivations, what might hinder your participation in a race and your idea of a good race. Please note that you may experience minimal discomfort answering questions regarding your feelings about running.

Your participation in this study is **voluntary.** You are free to decide not to participate in this study or to withdraw at any time. If you choose to participate, you may withdraw at any time by notifying the Project Director. Upon your request to withdraw, all information pertaining to you will be destroyed. If you choose to participate, all information will be held in the strictest confidence. Your response will be considered **only in combination** with those from other participants. The information obtained in the study may be published in scientific journals or presented at scientific meetings but your identity will be kept strictly confidential.

If you are willing to participate in this study, please sign the statement below. Upon completion of the survey, your name will be entered into a drawing for a **$50 Gift Card at Inside Track or Dick's Sporting Goods** (your choice). Thank you for your consideration!

Nikki

Project Director:
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Runner Identity	Strongly Agree	Agree	Slightly Agree	Neither Agree Nor Disagree	Slightly Disagree	Disagree	Strongly Disagree
1. I consider myself a runner.	○	○	○	○	○	○	○
2. I share a group identity with runners.	○	○	○	○	○	○	○
3. I typically only run 5K races.	○	○	○	○	○	○	○
4. I am a runner, but I generally do not participate in races.	○	○	○	○	○	○	○
5. I typically run races that are longer than 5K.	○	○	○	○	○	○	○

General Running Beliefs While running, I believe it is important to...	Strongly Agree	Agree	Slightly Agree	Neither Agree Nor Disagree	Slightly Disagree	Disagree	Strongly Disagree
6. Compete with myself.	○	○	○	○	○	○	○
7. Improve my health.	○	○	○	○	○	○	○
8. Socialize with other runners.	○	○	○	○	○	○	○
9. Help control my weight.	○	○	○	○	○	○	○
10. Compete with others.	○	○	○	○	○	○	○
11. Help a good cause.	○	○	○	○	○	○	○
12. Feel a sense of belonging.	○	○	○	○	○	○	○
13. See how high I can place in races.	○	○	○	○	○	○	○
14. Prolong my life.	○	○	○	○	○	○	○
15. Improve my running speed.	○	○	○	○	○	○	○
16. Visit with friends.	○	○	○	○	○	○	○
17. Help improve a charitable cause.	○	○	○	○	○	○	○
18. Improve my mood.	○	○	○	○	○	○	○
19. Solve problems.	○	○	○	○	○	○	○
20. Meet people.	○	○	○	○	○	○	○
21. Make my life more purposeful by helping a worthy cause.	○	○	○	○	○	○	○

22. Do you plan to participate in a race in 2012? (Yes/No) ___ (If No, skip to question 25)

23. What race distances are you planning to run in 2012? (Check all that apply)

__1 Mile __5K __10K __Half Marathon __Full Marathon or longer __Adventure Race

24. How many races, 10K or longer, have you completed in the past 2 years? _____

25. Have you ever participated in a 5K race? (Yes/No) ____ (If No, skip to question 30)

26. How many 5K races have you competed in?

In the past 2 years? ___ 1 year?___ 6 months? ____

27. How long (in years) have you been participating in 5K races? _____

28. What is your personal record (PR) in a 5K race in the last 2 years? _____

29. I run in 5K races to (rank from highest importance (1) to lowest (15)):

__ support a specific charity __ cross train for other sports __ compete with others my age/gender

__ compete with everyone __ improve my general health __ focus on healthy pastimes

__ manage stress __ beat my previous record __ raise funds/awareness for a good cause

__ interact with friends __ build relationships __ improve cardiovascular health

__ lose weight __ boost my self-esteem __ win awards or medals

5K Charitable Race Attitudes, Norms, and Control Components	Strongly Agree	Agree	Slightly Agree	Neither Agree Nor Disagree	Slightly Disagree	Disagree	Strongly Disagree
30. I believe that participating in 5K races is a good thing to do.	○	○	○	○	○	○	○
31. My friends/family members think it's a good idea to participate in 5K races.	○	○	○	○	○	○	○
32. I want to do what other runners do in the local running community.	○	○	○	○	○	○	○
33. If I train for a 5K race, I can meet my goal for the race.	○	○	○	○	○	○	○
34. Goal achievement is a good motivation for participating in a 5K race.	○	○	○	○	○	○	○
35. Pre-registering for a 5K race would encourage me to participate.	○	○	○	○	○	○	○
36. I can participate in a 5K race by running and/or walking.	○	○	○	○	○	○	○
37. I will be in shape to participate in 5K races in 2012.	○	○	○	○	○	○	○
38. My friends/family members would approve of participating in a 5K race.	○	○	○	○	○	○	○
39. Participating in a 5K race is good for my health and fitness.	○	○	○	○	○	○	○
40. I am willing to raise money for the charity that the 5K race benefits.	○	○	○	○	○	○	○
41. I participate in 5K races to spend time with friends and/or family.	○	○	○	○	○	○	○

42. Do you plan to participate in a local 5K or similar distance race between today and January 2, 2013? (Yes/No)_____ **(If no, skip to 45)**

43. If yes, which races? **Circle all that Apply.**

New Freedom Parade 5K (July 7 New Freedom)	Firefighter 5K (Sept 8 Mt. Wolf)	Dr. Segro Memorial 5K (Oct 13 Red Lion)
Carlisle Summerfair 5K (July 7 Carlisle)	Race for their Lives (Sept 15 Rossville)	Shelter Shuffle 5K (Oct 13 Harrisburg)
Mason Dixon Fair 5K (July 14 Delta)	Peace 4 Paws 5K (Sept 22 Shippensburg)	Officer Tome Memorial 5K (Oct 13 Spring Grove)
EBACC 5K (July 21 East Berlin)	Get Moving for H.O.P.E. (Sept 22 New Freedom)	NAMI York County Mental Illness Awareness 5K (Oct 13 York)
Fredricksen Library Loop 5K (July 28 Camp Hill)	Septemberfest 5K (Sept 22 Spring Grove)	Partners in the Park (Oct 14 York)
Sunset Stretch 5K (July 28 Middletown)	Clarabeth 5K (Sept 23 York)	CYEA Holiday Drive 5K (Oct 20 York)
Shippensburg Community Fair 5K (July 28 Shippensburg)	Great Prostate Cancer Challenge (Sept 28 Harrisburg)	Run for a Reason 5K (Oct 27 Hummelstown)
Running Feet for Helping Hands 5K (Aug 4 Stewartstown)	Springettsbury Township Day (Sept 29 York)	Great Pumpkin Chase 5K (Oct 27 Harrisburg)
Wings of Kindness 5K (Aug 4 Millerstown)	Heather Baker 5K (Sept 29 Hanover)	Boo Run Run 5K (Oct 27 York)
Harrisburg Senators 5K (Aug 11 Harrisburg)	Merrick 5K (Sept 29 Mechanicsburg)	5K MAG Run (Nov 3 Wrightsville)
Silence of Mary Home 5K (Aug 11 Enola)	Fall Down on the Trail 5K (Sept 29 Newville)	Jacob Dannels Memorial 6K (Nov 10 Wrightsville)
HARRC After Dark (Aug 17 Harrisburg)	Beat the Chicken 5K (Oct 6 York)	SMT Turkey Trot (Nov 22 New Cumberland)
4th Annual Run for the Park 5K Challenge (Aug 18 Hanover)	York College 5K (Oct 6 York)	CVRTC Turkey Trot 5K (Nov 22 Shippensburg)
Race Back to School (Aug 18 York)	Grateful Dog Walk/5K (Oct 6 Harrisburg)	Turkey Trot 5K (Nov 22 Newport)
Free to Breathe 5K (Aug 25 Harrisburg)	Run for the Sun 5K (Oct 6 York)	Spring Valley 5K (Dec 2 Spring Valley)
On The Rocks Trail Runs (Aug 18 York)	Four Diamonds 5K (Oct 7 Hershey)	Jingle Bell Run 5K (Dec 8 Harrisburg)
Quarterback Club 5K (Sept 3 York)	Coaches Challenge 5K (Oct 11 York)	Jingle Bell Run 5K (Dec 15 York)
(Please include Name, Date, Location)		2013 Resolution Run (Dec 31 – Hershey)
Other:	Other:	Other:

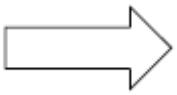
44. Do you typically pre-register for the race(s) you intend to run? (Yes/No) _____

45. Do you intend to run a 5K race in 2013? (Yes/No)_____

46. Did you run competitively in high school or college? (Yes/No) _____

47. What is your birth date? (mm/dd/yy) _____

48. What is your gender? (M/F) _____



49. How do you define your race?

__ Caucasian
__ African American
__ Asian
__ Asian (Indian)
__ Other Race
__ More than One Race
__ Decline to Answer

50. How do you define your ethnicity?

__ Hispanic
__ Non-Hispanic
__ Decline to Answer

51. What is your annual household income?

__ Below $50,000
__ $50,001 to $75,000
__ $75,001 to $100,000
__ $100,001 to $150,000
__ $150,001 to $200,000
__ Above $200,001
__ Decline to Answer

52. What is your highest level of education?

__ Less than High School
__ High School Diploma/GED
__ Associate's Degree
__ Bachelor's Degree
__ Master's Degree
__ Professional Degree
__ Doctorate Degree
__ Decline to Answer

Thank you so much for completing the survey!! See you at the next race!

I want to hear more about your 5K race motivations!
Are you willing to participate in an interview about running motivations and your best 5K race experience? If so, please write your name, e-mail address and/or phone number in the space provided.

_____	_____	_____
Name	Email Address	Phone Number

Appendix D
Permission Letters from Running Clubs

From: bradc262@comcast.net [mailto:bradc262@comcast.net]
Sent: Thursday, January 26, 2012 1:52 PM
To: Bell, Nicolette
Cc: sdwhit@comcast.net; james.vorhauer@arcelormittal.com; stotan31@aol.com; Collins, James S. (DPW); wcg254@comcast.net; run26mile@comcast.net; garf243@comcast.net; Brandon Parks; Mary Lou Harris
Subject: Re: Running Motivation Survey/Interviews

Nikki:

This is a running related survey that HARRC can support. You may send one e-mail blast to the club mailing list and one mailing to the club membership list. Brandon can provide names and addresses from the membership database. I am copying the board in case anyone has an objection or wants to bring this up for a vote.

I also have no objection to stating that you represent HARRC as long as you are clearly stating the purpose of this survey and that the results will be posted for all to see. This is part of HARRC's mission to promote running.

Brad

HARRC President

From: pilotparks@gmail.com [mailto:pilotparks@gmail.com] **On Behalf Of** Brandon Parks
Sent: Thursday, January 26, 2012 2:36 PM
To: Bell, Nicolette
Cc: brad C
Subject: Re: Running Motivation Survey/Interviews

That sounds good to me.

Would it work if you just sent me the letter and I will email it out to the YRRC mailing list?

I also have a mailing list with over 2,500 runners that I could use if you sent me the letter.

Brandon

US Road Running President and YRRC Board Member

Appendix E
Permission Letters from Race Directors

"Nikki,

See attached. Hopefully that will work. I'm IT challenged. I made email list in word so you could cut and paste. Let me know if you want a different format.

No need to publicly support. I appreciate that you have my run listed in survey to help advertise.

Please send me a form to complete when ready, unless I can fill out what you sent already. This has my interest since running for about 25 years and now directing a race. I think you should have on survey form if person was a collegiate and/or high school runner. It seems as though when I was racing out of college things were competitive, but now I don't think a lot of runners continue after college at least local races. Excluding the few top finishers of race, if that, races don't seem to have fast winning times. The Gettysburg 5K is I think an example, first started light until word got around about airline tickets as a prize. Then heavy with competitive runners and alot of participants. I think with a 16:20 I finished 50th, but a few years ago I could finish with an 17 or 18 min and come in 25th overall at age 40, but they draw a large crowd. I use to like to run a race with a lot of fast runners because it would help achieve PRs since they drag you along.

My race is young and a 5k, but would compare course to Run Through Grape Vine 5 miler in Howard County Striders (md). That course I think may be harder, but draws several hundred and seem to be all Howard County residents. The event is on vineyard so you get to taste wine afterwards and it has been around 15 years or so. My race, I hope to break a 100 this year. I know I heard people say my course is though. It is so weird with the contrast right now btw the two races. The 5 miler I think doesn't even support a cause except the running club. Interesting what draws people to a race. I think of 3 C's - cost, cause, and course.

Hope you don't mind my wordiness, but I have interest in what you are doing since I think I've seen changes and have questions to what draws people.

I guess you heard about Millersville University cutting mens running from athletic program. Please have your club help save/support the program. They have a Facebookpage to get details of what has been happening. I am a former Ville runner myself and hate to see them cut the program.

Good luck with you research and hope you can provide me results when finished.

Jeff Klenk"

“Hi Nicki,
Here is a list of email addresses from those who participated in todays 5k. I hope this helps!

Andy Hoover (Dash for Diabetes Race Director)

Appendix F
Informed Consent Form & Interview Guide

Thank you for agreeing to participate in the semi-structured interview portion of this research study about your motivation to participate in 5K races! If you have any questions **please do not hesitate to ask**. You are eligible to participate because you are over the age of 18 and reside in the Harrisburg or York areas of Pennsylvania and/or you have participated in a local running club or race.

Your participation will include a semi-structured interview about your motivations to participate in 5K races, what your identity as a runner means to you, and what the ideal 5K race would entail. Please note that you may experience minimal discomfort answering questions regarding your feelings about running.

Your participation in this study is **voluntary.** You are free to decide not to participate in this study or to withdraw at any time. If you choose to engage in the interview, you may withdraw at any time by notifying the Project Director. Upon your request to withdraw, all information pertaining to you will be destroyed. If you choose to participate, all information will be held in the strictest confidence. Your response will be considered **only in combination** with those from other participants. You will receive a code name in the transcription of your interview to keep your identity confidential. The information obtained in the study may be published in scientific journals or presented at scientific meetings but your identity will be kept strictly confidential.

INTERVIEW GUIDE

Disclosure and Consent: **Thank you for volunteering for this interview** about your motivation to participate in 5K races! The following information is provided in order to help you to make an informed decision whether or not to continue to participate. If you have any questions **please do not hesitate to ask**. You are eligible to participate because you are over the age of 18 and reside in the Harrisburg or York areas of Pennsylvania and/or you have participated in a local running club or race.

The purpose of this study is to gain an understanding of the motivations of 5K race participants in the Harrisburg and York areas of Pennsylvania. More importantly, the findings from this study will be available to race directors at Central Pennsylvania nonprofit organizations as a guide to plan a successful 5K race fundraiser for a worthy cause and/or to increase participation in their current 5K race.

Your participation in this study is **voluntary.** You are free to decide not to participate in this study or to withdraw at any time. If you choose to engage in the interview, you may withdraw at any time by notifying the Project Director. Upon your request to withdraw, all information pertaining to you will be destroyed. If you choose to participate, all information will be held in the strictest confidence. Your response will be considered **only in combination** with those from

other participants. You will receive a code name in the transcription of your interview to keep your identity confidential. The information obtained in the study may be published in scientific journals or presented at scientific meetings but your identity will be kept strictly confidential.

Running Experience

Why did you start running? What motivates you to continue to run?

Where did you run your first 5K?

What is your favorite 5K race experience? Ideal 5K race?

Do you run with others (including friends, children, running club, pets)?

What motivates you during the race?

How do you feel after the race?

What can a race director include in a race design that will encourage you to participate year after year?

Running Motivations

Do you identify as a runner? How does the running community fit into your life?

What role does *health and fitness* play in your motivation to run in races?

What role does *competition* play in your motivation to run in races?

What role does *social interaction* play in your motivation to run in races?

What role does *charity* play in your motivation to run in races?

What do your friends and family think about running 5K races?

Is there ever a time when you think that you cannot participate in a 5K race?

Do you plan and train for a 5K race in advance? How far in advance do you typically decide to run a race? Do the pre-registering deadlines help (guaranteed t-shirt, lower price)?

Is there anything else you would like to share with me about running and/or the charitable races in the local community?

Appendix G
Motivation to Run 5K Races Research Audit Trail

- I decided to use Excel for organizing my notes into themes
    - I have created Source, Quote, Note, and Theme columns so I can sort and re-sort the new themes as they reveal themselves
    - I will use different sheets for each iterations so I have a snapshot of my thinking and organization at each phase of analyzing my data
- I have 417 notes from my 23 different field notes that I felt were worthy of further analysis
- After assigning the initial themes to the notes and data points I analyzed, I split notes that had more themes, ending up with 517 final notes.
- Initial Themes (32)
    - Accomplishment (25 Notes)
    - Active Lifestyle (5 Notes)
    - Altruism (35 Notes)
    - Change (12 Notes)
    - Commitment (3 Notes)
    - Community (16 Notes)
    - Competition (33 Notes)
    - Encouragement (7 Notes)
    - Energized (4 Notes)
    - Exhausted (4 Notes)
    - Goal Achievement (22 Notes)
    - Health (47 Notes)
    - Identity (24 Notes)
    - Life-Changing (1 Note)
    - Longevity (5 Notes)
    - Loyalty (1 Note)
    - Mental Health (8 Notes)
    - Norm (24 Notes)
    - Perceived Behavioral Control (22 Notes)
    - Planning (15 Notes)
    - Preparation (2 Notes)
    - Preregistration (19 Notes)
    - Race Design (59 Notes)
    - Runner's High (8 Notes)
    - Self-Esteem (2 Notes)
    - Self-Improvement (11 Notes)
    - Social (74 Notes)
    - Solo (8 Notes)
    - Strategizing (1 Note)
    - Training (17 Notes)
    - Volunteering (2 Notes)
- After checking these themes for internal homogeneity, I decided to combine and throw out some themes
    - I removed the notes and quotes from the Race Design category because these will be used to create a separate report to provide to the 200+ 5K race directors

in the Harrisburg and York area who want recommendations for race design improvements and ideas from the local running community
    - I eliminated Loyalty (adding it to the Race Design category)
    - I combined the Planning, Preparation, Preregistration, Training, and Commitment themes to create an Intent theme.
    - I added Volunteering to Altruism
    - I added Life-Changing to Change
    - I added Energized to Runner's High
- I combined Exhausted, Runner's High, Self-Esteem, Encouragement to become sub-themes under Race Emotions/Attitudes
- I decided to move sub-themes under Competition, Health, and Social
    - Sub-themes for Competition were: Accomplishment, Goal Achievement, Self-Improvement, and Strategizing
    - Sub-themes for Health were: Active Lifestyle, Longevity, Mental Health
    - Sub-themes for Social were: Solo, Community
- After these changes, my new themes and sub-themes were:
    - Change (13 Notes)
    - Competition (33 Notes)
        - Accomplishment (25 Notes)
        - Goal Achievement (22 Notes)
        - Self-Improvement (11 Notes)
        - Strategizing (1 Note)
    - Health (47 Notes)
        - Active Lifestyle (5 Notes)
        - Longevity (5 Notes)
        - Mental Health (8 Notes)
    - Social (74 Notes)
        - Solo (8 Notes)
        - Community (15 Notes)
        - Accountability (New Sub-theme – 3 Notes)
    - Altruism (37 Notes)
    - Race Emotions/Attitudes
        - Encouragement (7 Notes)
        - Exhausted (4 Notes)
        - Runner's High (12 Notes)
        - Self-Esteem (2 Notes)
    - Identity (24 Notes)
    - Norm (24 Notes)
    - Perceived Behavioral Control (22 Notes)
    - Intent (54 Notes)

Appendix H
5K Race Design Recommendations (for Nonprofit Race Directors)

Category	*Recommendation*	*# of times mentioned*
Race Course Design		
	Interesting route - participants don't want to be bored – AVOID out and backs if possible – try for scenery (e.g. bridge, rolling hills, some flat, etc.)	13
	Trail Route	5
	Well-marked race course	3
	Fast Course	3
	Race with dogs allowed	2
	Course monitors who are helpful, encouraging, and knowledgeable about the route	2
	Water stops – well-manned and well-placed	2
	Encouragement along the course from spectators	1
	Point-to-point race course design	1
	Race with Jogging Strollers allowed	1
	Closed course (no traffic)	1
Race Amenities		
	Entertainment/Activities after the race – music/party atmosphere	10
	Good food/Enough food and water for everyone/Nutritious options/Chocolate during and after race/Beer	8
	Tech Race t-shirt with cool artwork – many sizes (including women's) available for pre-registrants	6
	Random Prizes/Raffles	6
	Chip timing for accuracy and quick results	4
	Race with a theme/fun contests (e.g. night glow run where everyone runs with glow sticks/necklaces after dark)	4
	Family-Friendly atmosphere	2
	Interesting Age Group Awards (e.g. Beer Glass, necklaces, bracelets, gift cards)	2
	Goodie bag with freebies (e.g. candy, coupons, stickers, etc.)	1
	Wet wash cloths at the end of the race (for Summer races particularly)	1
	Enough bathrooms at the starting line/finish area	1
Race Planning		

	Early Registration discount	10
	Organized race director with support and knowledge of the participants – be fun and exciting – engage the participants	8
	Support a worthy charitable cause – make it well-known on the website and in the registration form what charity or charities this race will be benefitting	7
	Advertise race early and often – on racing websites/Facebook/Twitter/Billboards/radio stations/news channels	5
	Plan races for times of the year, such as the Spring and the Fall, when the heat and humidity are not so bad	4
	Price is important - work on getting enough sponsors to keep price around $20.	3
	Offer fundraising awards and opportunities to raise money and race as a team	2
	Race times posted online quickly - fast and accurate results	1
	Make the race part of a series – more opportunities for people to sign up, repeat exposure for sponsors	1
	Consider selling other merchandise benefitting your charity at the race – participants might be willing to spend more money if they had a good time	1
	Volunteers – friendly/helpful/knowledgeable at the registration tables	1
	Plan the race for a day that doesn't have many competing 5K races in the area – especially avoid the weekends the well-established races with lots of loyal yearly participants are usually planned – talk to other race directors – many know their dates a year in advance.	1
	Easy registration process	1
	5-Year Age Group Categories – more chances to win!	1

Appendix I
Interaction Analysis

Competition/Gender Interaction

Source	SS	df	MS
Model	682.227883	3	227.409294
Residual	5815.16993	555	10.4777836
Total	6497.39781	558	11.6440821

Number of obs = 559
F(3, 555) = 21.70
Prob > F = 0.0000
R-squared = 0.1050
Adj R-squared = 0.1002
Root MSE = 3.2369

attitude	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
competitiomale	1.271158	.340572	3.73	0.000*	.6021908	1.940126
competition	.662124	.2016687	3.28	0.001*	.2659968	1.058251
male	-1.124341	.286383	-3.93	0.000*	-1.686868	-.5618134
_cons	29.20248	.1793799	162.80	0.000*	28.85013	29.55483

Predicted attitude = 29.2 + 1.27 competitionmale + .66 competition -1.12 male

Predicted attitude (Male) = 29.2 + 1.27 competition +.66 competition – 1.12
Predicted attitude (Male) = 28.08 + 1.93 competition

Predicted attitude (Female) = 29.2 + .66 competition

Competition appears to have a stronger positive effect on attitude towards participating in 5K races for men than women.

Altruism/Gender Interaction

Source	SS	df	MS
Model	1687.61007	3	562.536689
Residual	4809.78774	555	8.66628422
Total	6497.39781	558	11.6440821

Number of obs = 559
F(3, 555) = 64.91
Prob > F = 0.0000
R-squared = 0.2597
Adj R-squared = 0.2557
Root MSE = 2.9439

attitude	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
altruismmale	.6408635	.2724636	2.35	0.009*	.1056776	1.176049
altruism	1.540086	.187185	8.23	0.000*	1.172408	1.907764
male	.0816891	.2579047	0.32	0.752	-.4248996	.5882777
_cons	28.87778	.1654669	174.52	0.000*	28.55276	29.2028

Predicted attitude = 28.88 + .64 altruismmale + 1.54 altruism + .08 male

Predicted attitude (Male) = 28.88 + .64 altruism + 1.54 altruism +.08
Predicted attitude (Male) = 28.96 + 2.18 altruism

Predicted attitude (Female) = 28.88 + 1.54 altruism

Altruism appears to have a slightly stronger positive effect on the predicted attitude of running 5K races for men than women (slightly weaker positive effect).

Age/Gender Interaction

Source	SS	df	MS
Model	292.47551	3	97.4918367
Residual	6311.65088	570	11.0730717
Total	6604.12639	573	11.525526

Number of obs =	574
F(3, 570) =	8.80
Prob > F =	0.0000
R-squared =	0.0443
Adj R-squared =	0.0393
Root MSE =	3.3276

attitude	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
sqrt_age	-.2863383	.2132856	-1.34	0.180	-.7052599	.1325833
sqrt_agemale	-.6879002	.3124905	-2.20	0.028	-1.301673	-.0741268
male	3.957816	2.052045	1.93	0.054	-.0726773	7.988309
_cons	31.00379	1.361406	22.77	0.000	28.3298	33.67777

Predicted attitude = 31.00 - .29 sqrt_age - .69 sqrt_agemale + 3.96 male

Predicted attitude (Male) = 31.00 -.29 sqrt_age -.69 sqrt_age +3.96
Predicted attitude (Male) = 34.96 - .98 sqrt_age

Predicted attitude (Female) = 31.00 -.29 sqrt_age

Age appears to have a slightly stronger negative effect on the predicted attitude of running 5K races for men than women.

Competitive Attitude Regressed on All Beliefs

Source	SS	df	MS	Number of obs = 559
Model	130.414237	4	32.6035594	F(4, 554) = 35.39
Residual	510.430128	554	.921354021	Prob > F = 0.0000
				R-squared = 0.2035
				Adj R-squared = 0.1978
Total	640.844365	558	1.1484666	Root MSE = .95987

attCompetition	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
competition	.4288763	.0514024	8.34	0.000*	.3436055
health	.3289518	.0660079	4.98	0.000*	.2292814
social	-.2513944	.0559603	-4.49	0.000*	-.2091348
altruism	.1302949	.0519258	2.51	0.006*	.113519
_cons	5.891827	.0407736	144.50	0.000*	

Health/Fitness Attitude Regressed on All Beliefs

Source	SS	df	MS	Number of obs = 557
Model	42.9823073	4	10.7455768	F(4, 552) = 33.59
Residual	176.56886	552	.319871123	Prob > F = 0.0000
				R-squared = 0.1958
				Adj R-squared = 0.1899
Total	219.551167	556	.3948762	Root MSE = .56557

attHealth	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
health	.3311071	.0389086	8.51	0.000*	.3932677
competition	.0877198	.0303438	2.89	0.002*	.119685
altruism	.0780846	.0306174	2.55	0.006*	.1159281
social	-.1169741	.033009	-3.54	0.000*	-.1656356
_cons	6.610611	.0240587	274.77	0.000*	

Altruistic Attitude Regressed on All Beliefs

Source	SS	df	MS	Number of obs = 559
Model	337.314833	4	84.3287083	F(4, 554) = 49.69
Residual	940.195006	554	1.6971029	Prob > F = 0.0000
				R-squared = 0.2640
				Adj R-squared = 0.2587
Total	1277.50984	558	2.28944416	Root MSE = 1.3027

attAltruism	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
altruism	.8779947	.0704732	12.46	0.000*	.5417854
health	.097435	.0895853	1.09	0.139	.0481001
competition	-.0741977	.0697629	-1.06	0.144	-.0421029
social	-.1918564	.0759488	-2.53	0.006*	-.1130424
_cons	5.146792	.0553376	93.01	0.000*	

Social Attitude Regressed on All Beliefs

Source	SS	df	MS	Number of obs = 557
Model	479.985965	4	119.996491	F(4, 552) = 73.26
Residual	904.161252	552	1.63797328	Prob > F = 0.0000
				R-squared = 0.3468
				Adj R-squared = 0.3420
Total	1384.14722	556	2.48947341	Root MSE = 1.2798

attSocial	Coef.	Std. Err.	t	P>|t|	Standardized Coef.
social	1.105166	.0747112	14.79	0.000*	.6255457
competition	-.2152001	.068584	-3.14	0.001*	-.1171868
altruism	-.0071093	.0693134	-0.10	0.459	-.0042073
health	-.0376441	.0881775	-0.43	0.335	-.0178071
_cons	4.750199	.054454	87.23	0.000*	

Appendix J
Ranking Analysis

Rank	Ranked by importance	ALL – Mean	Ranked by importance	Male – Mean	Ranked by importance	Female – Mean
1	Improve my general health N=557	4.27	Improve my general health N=227	4.41	Improve my general health N=321	4.15
2	Improve Cardiovascular Health N=556	5.67	Improve Cardiovascular Health N=227	5.4	Manage Stress N=318	5.76
3	Manage Stress N=552	6.23	Beat my Previous Record N=226	6.81	Improve Cardiovascular Health N=320	5.82
4	Lose Weight N=554	6.9	Manage Stress N=225	6.99	Lose Weight N=321	6.57
5	Beat my Previous Record N=554	6.94	Focus on Healthy Pastimes N=227	7.24	Support a Specific Charity N=320	6.6
6	Support a Specific Charity N=555	7	Lose Weight N=224	7.35	Beat my Previous Record N=319	7.03
7	Focus on Healthy Pastimes N=554	7.25	Support a Specific Charity N=226	7.58	Boost my Self-Esteem N=319	7.21
8	Interact with Friends N=550	7.69	Interact with Friends N=225	7.78	Focus on Healthy Pastimes N=318	7.24
9	Boost my Self-Esteem N=552	7.88	Compete with Others My Age/Gender N=225	7.79	Interact with Friends N=316	7.7
10	Raise Funds/awareness for a good cause N=557	8.39	Compete with Everyone N=225	7.84	Raise Funds/awareness for a good cause N=320	7.89
11	Compete with Others My Age/Gender N=552	8.77	Boost my Self-Esteem N=224	8.75	Compete with Others My Age/Gender N=318	9.46
12	Compete with Everyone N=551	9.09	Raise Funds/awareness for a good cause N=228	8.98	Build Relationships N=317	9.97
13	Build Relationships N=551	9.86	Build Relationships N=225	9.72	Compete with Everyone N=317	10.1

14	Cross Train for Other Sports N=552	10.35	Cross Train for Other Sports N=225	10.16	Cross Train for Other Sports N=318	10.51
15	Win Awards or Medals N=552	11.98	Win Awards or Medals N=225	11.5	Win Awards or Medals N=318	12.24